GoldStar

VIDEO CASSETTE RECORDER
SERVICE MANUAL

MODEL : P43HW

CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.

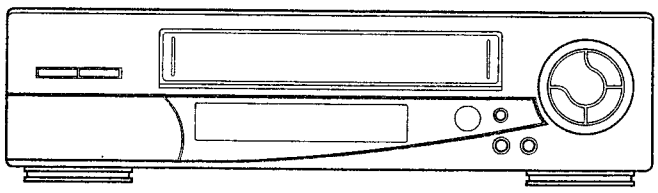


TABLE OF CONTENTS

SECTION 1 SUMMARY

KEY TO ABBREVIATIONS 1-1
IMPORTANT SAFETY PRECAUTIONS 1-2
- Precautions during Servicing

SAFETY CHECK AFTER SERVICING 1-3
- Insulation resistance test
- Dielectric strength test
- Clearance distance
- Leakage current test

FEATURES 1-4
SPECIFICATIONS 1-4
LOCATION OF CUSTOMER CONTROLS 1-5

SECTION 2 CABINET & MAIN FRAME

SERVICE METHOD 2-1
1. Electrical Service Fixture List 2-1
2. SVC FIXTURE Connecting Method 2-2

CABINET DISASSEMBLY 2-4
1. Top Case 2-4
2. Bottom Cover 2-4
3. Front Panel 2-4

CIRCUIT BOARD DISASSEMBLY 2-5
1. Housing and Deck Ass'y 2-5
2. Power Ass'y 2-5
3. Timer Circuit Board 2-5
4. Main Circuit Board 2-5

EXPLODED VIEWS 2-7
1. Cabinet & Main Frame Section 2-7
2. Packing & Accessory Section 2-9
3. Remote Control Section 2-10

SECTION 3 ELECTRICAL

ELECTRICAL ADJUSTMENT PROCEDURES 3-1
1. Servo Circuit 3-1
2. Audio Circuit 3-2
3. Tuner/IF Circuit 3-2

BLOCK DIAGRAMS 3-3
1. Power (SMPS) Block Diagram 3-3
2. Jack Block Diagram 3-5
3. Servo'Syscon & Audic & Tuner & IF Block Diagrams 3-7
4. Y/C Block Diagram 3-11

CIRCUIT DIAGRAMS 3-15
1. Power (SMPS) Circuit Diagram 3-15
2. Jack Circuit Diagram 3-17
3. Timer Circuit Diagram 3-19
4. Servo/Syscon & Audio & Tuner Circuit Diagrams 3-23
5. Y/C Circuit Diagram 3-27
6. IF Circuit Diagram 3-33
7. Connection Diagram 3-35

PRINTED CIRCUIT BOARD DIAGRAMS 3-37
1. IF P.C.Board 3-37
2. Jack P.C. Board 3-37
3. Main P.C.Board 3-39
4. Power (SMPS) P.C.Board 3-41
5. Y/C & Pre-Amp P.C.Board 3-42
6. Timer P.C.Board 3-41

SECTION 4 MECHANISM

NOTE) The table of contents for this section is edited separately.

SECTION 5 REPLACEMENT PARTS LIST

- Mechanical Section 5-1
- Cabinet & Main Frame Section 5-3
- Packing Accessory Section 5-4
- Remote Control Section 5-4
- Fixture Section 5-5
- Electrical Section 5-6

SECTION 1 SUMMARY KEY TO ABBREVIATION

A	AC	:Alternating Current
	ACC	:Automatic Color Control
	ACSS	:Automatic Channel Setting System
	ADJ	:Adjust
	A/E	:Audio Erase
	AFC	:Automatic Frequency Control
	AFT	:Automatic Fine Tuning
	AGC	:Automatic Gain Control
	A.H.SW	:Audio Head Switch
	ALC	:Automatic Level Control
	AM	:Amplitude Modulation
	AMP	:Amplifier
	ANT	:Antenna
	APC	:Automatic Phase Control
	ASS'Y	:Assembly
	AUX	:Auxiliary
B	B	:Base
	BGP	:Burst Gate Pulse
	BPF	:Bandpass Filter
	BS	:Brodcasting Satellite
	BW or B/W	:Black and White
C	C	:Capacitor, Chroma, Collector
	CAN	:Cancel
	CAP	:Capstan
	CAP.BRK	:Capstan Brake
	CAP.RVS	:Capstan Reverse
	CATV	:Cable Television
	CBA	:Circuit Board Assembly
	CCD	:Charge Coupled Device
	C.CTL	:Chro Control, Capstan Control
	CFG	:Capstan Frequency Generator
	CHROMA	:Chrominance
	CNR	:Chroma Noise Reduction
	COMB	:Combination Comb Filter
	COMP	:Comparator Composite Compensation
	CONV	:Converter
	C.ROT SW	:Color Rotary Switch
	CS	:Chip Select
	C.SYNC	:Composite Synchronization
	CTL DIV	:Control Divide
	CUR	:Current
	CYL	:Cylinder
D	D	:Drum, Digital, Diode, Drain
	D.ADJ	:Drum Adjust
	DC	:Direct Current
	D.CTL	:Drum Control
	DEMOD	:Demodulator
	DET	:Detect
	DEV	:Deviation
	DHP	:Double High Pass
	DIGITRON	:Digital Display Tube
	DL	:Delay Line
	DOC	:Drop Out Compensator
	DUB	:Dubbing
	D.V SYNC	:Dummy Vertical Synchronization
E	E	:Emitter
	EE	:Electric to Electric
	EMPH	:Emphasis
	ENA	:Enable
	ENV	:Envelope
	EP	:Extended Play
	EQ	:Equalizer
	EXP	:Expander
F	F	:Fuse
	FB	:Feed Back
	FBC	:Feed Back Clamp
	FE	:Full Erase
	FG	:Frequency Generator
	FL	:Filter
	FM	:Frequency Modulation
	F/R	:Forward/Reverse
	FS	:Frequency Synthesizer
	FSC	:Subcarrier Frequency
	F/V	:Frequency Voltage
G	GEN	:Generator
H	H	:High, Horizontal
I	IC	:Intergrated Circuit
	IF	:Intermediate Frequency
	INS	:Insert
L	L	:Low, Left, Coil
	LD	:Loading
	LD VTG CTL	:Loading Voltage Control
	LECHA	:Letter Character
	L.M	:Level Meter
	LP	:Long Play
	LPF	:Low Pass Filter
M	MAX	:Maximum
	MD	:Modulator
	MECHA.CTL	:Mechanism Control
	MIC	:Microphone
	MIN	:Minimum
	MIX	:Mixer, Mixing
	M.M.	:Mono Multi Vibrator
	MMV	:Monostable Multivibrator
	MOD	:Modulation, Modulator
	MODEN	:Modulation-Demodulator
	MPX	:Multiplex
N	NR	:Noise Reduction
O	OSC	:Oscillator
	OSD	:On Screen Display
P	PB	:Playback
	PCB	:Printed Circuit Board
	P.CTL	:Power Control
	PER-AMP	:Preamplifier
	P.F	:Power Failure
	PG	:Pulse Generator
	PLL	:Phase Locked Loop
	PREM.DET	:Premire Detect
	P-P	:Peak to Peak
	PS	:Phase Shift
	PWM	:Pulse Width Modulation
	PWR CTL	:Power Control
Q	Q	:Transistor
	QH	:Quasi Horizontal
	QSR	:Quick Set Record
	QTR	:Quick Timer Record
	QV	:Quasi Vertical
R	R	:Resistor, Right
	RE(or RC)	:Remocon, Receiver
	REC	:Recording
	REC S.'H'	:Record Start 'Hight'
	REF	:Reference
	REG	:Regulated, Regulator
	REMOCON	:Remote Control(unit)
	RF	:Radio Frequency
	R/P	:Record/Playback
	RTC	:Real Time Counter
S	S	:Serial
	S.ACCEL	:Slow Accel
	SAOP	:Second Audio Program
	SC	:Scart, Simulcast
	S.DET	:Secam Detect
	SH	:Shift
	SHARP	:Sharpness
	SIF	:Sound Intermediate Frequency
	SLD	:Side Locking
	S/N	:Signal to Noise Ratio
	SP	:Standard Play
	ST	:Stereo
	SUB	:Subtract, Subcarrier
	SW or S/W	:Switch
	SYNC	:Synchronization
	SYSCON	:System Control
T	T	:Coil
	TP	:Test Point
	TR	:Transistor
	TRK	:Tracking
	TRANS	:Transformer
	TU	:Tuner, Take-Up
U	UHF	:Ultra Hight Frequency
	UNREG	:Unregulated
V	V	:Volte, Vertical, Video
	VA	:Voltage Alive
	VCO	:Voltage Controlled Oscillator
	VGC	:Voltage Gain Control
	VHF	:Very High Frequency
	V.H.SW	:Video Head Switch
	VISS	:VHS Index Search System
	VPS	:Video Program System
	VR	:Variable Resistor or Volume
	V-SYNC	:Vertical Synchronization
	VTG	:Voltage
	VV	:Video to Video
	VXO	:Voltage X-tal Oscillator
W	W	:Watt
	WHT	:White
	W/O	:With Out
X	X-TAL	:Crystal
Y	Y/C	:Luminance/Chrominance
	YNR	:Luminance Noise Reduction
Z	ZD	:Zener Diode

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▩) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistor

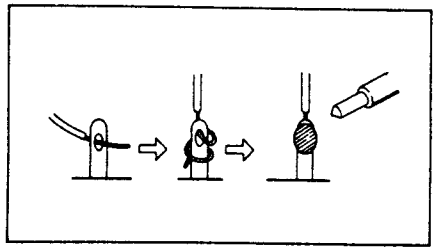


Fig. 1

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.(Fig. 1)

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10-15Kg of force in any direction will not loosen it.(Fig. 2)

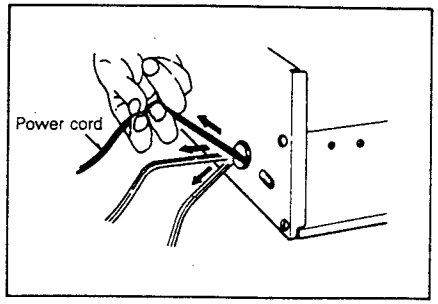


Fig. 2

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set(RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

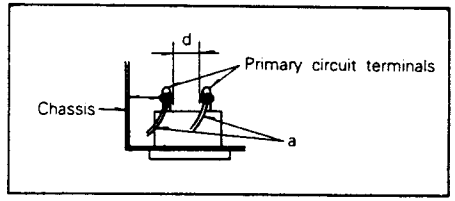


Fig. 3

Table 1:Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d')
*110 to 130 V 200 to 240 V	Europe Australia	≧10 MΩ/500 V DC	4kV 1 minute	≧6mm(d) ≧8mm(d') (a Power cord)

*Class II model only.

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)
Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

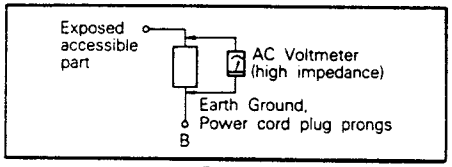


Fig. 4

Table 2:Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current(I)	Earth Ground (B) to:
100 to 130 V	Europe	2kΩ	I≦0.7m A peak I≦2m A dc	Antenna earth terminals
200 to 240 V	Australia	50kΩ	I≦0.7m A peak I≦2m A dc	Other terminals

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

FEATURES

- HQ (High Quality) picture enhancement system that improves picture sharpness and detail.
- Centre tape mechanism for high quality pictures.
- Full function infra-red remote control handset.
- Programmable 80 channel memory with voltage synthesised tuner.
- ACMS (Automatic Channel Memory System) the channels will be preset automatically. : ★
- 8 event/1 month programmable timer.
- Built-in ShowView programming. : ★
- Recording and playback for 16:9 Wide-screen format.
- Double speed playback.
- Auto Power on and Play.
- Automatic Rewind.
- LP - Long Play - recording and playback. ★
- Self diagonostic function.
- Shuttle Controls.
- Logic & Jet Search.
- VISS - VHS Index Search System. : ★
- Child Lock.
- Auto Head Cleaner.
- Fine still, Frame advance & Variable Slow functions.
- Real Time Counter & Remaining tape time display.
- Quick Start function.
- Digital Auto Tracking System.
- Reception of PAL/SECAM B/G.
- Recording and playback in PAL and SECAM.
- CANAL+ Compatible : ★
- VPS - Video programme system : ★

※ ★ : Optional Function

SPECIFICATIONS

GENERAL

Power	: AC100-240V(SMPS), 50Hz.
Power consumption	: Approx. 20 watts
Video recording system	: Double azimuth 4heads, helical scanning system
Tape speed	: 23.39 mm/sec (SP mode)/11.69 mm/sec (LP mode)
Tape format	: Tape width 1/2" (12.7 mm high density VHS tape)
Maximum recording time	: 4 hours in SP mode/8 hours in LP mode (with E-240 tape)
Rewind time	: Approx.150 sec. (with E-180 tape)
Dimensions (W x H x D)	: 14.2"x3.5"x12" (360x88x305 mm)
Weight	: 9.9lbs. (4.5 kg)
Operating temperature	: 41℉-95℉ (5℃-35℃)
Operating humidity	: Less than 80%
Timer	: 24 hours display type

VIDEO

Television system	: CCIR standard (625 lines, 50 fields) PAL/SECAM colour signal
Recording format	: PAL/MESECAM
RF reception	: PAL/ SECAM (B/G, D/K)
RF OUT	: PAL G/SECAM K
Input level	: VIDEO IN (Scart type) 1.0 Vp-p, 75 ohm, unbalanced
Output level	: VIDEO OUT (Scart type) 1.0 Vp-p, 75 ohm, unbalanced
Signal to noise ratio	: More than 43 dB
RF modulator	: UHF Channels 30-40 (adjustable)

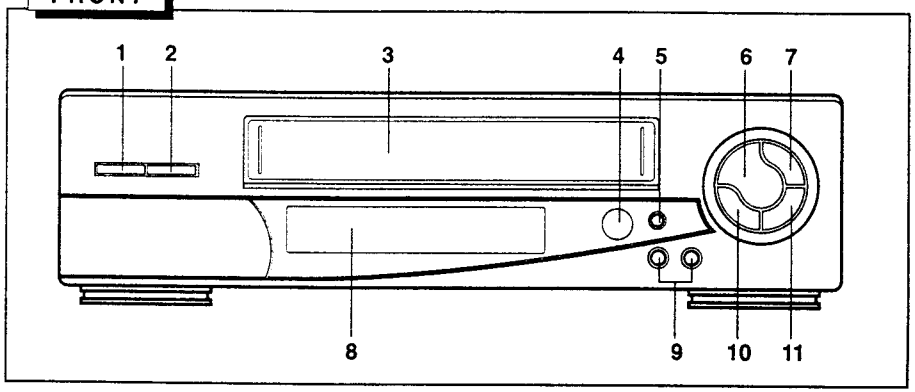
AUDIO

Input level	: AUDIO IN (Scart type) 0 dBm, more than 10Kohm
Output level	: AUDIO OUT (Scart type) 0 dBm, less than 1Kohm
Audio track	: Mono track
Audio frequency response	: 100 Hz-10 kHz (-6/+3)
Audio signal to noise ratio	: More than 43 dB

※ Design and specifications are subject to change without notice.

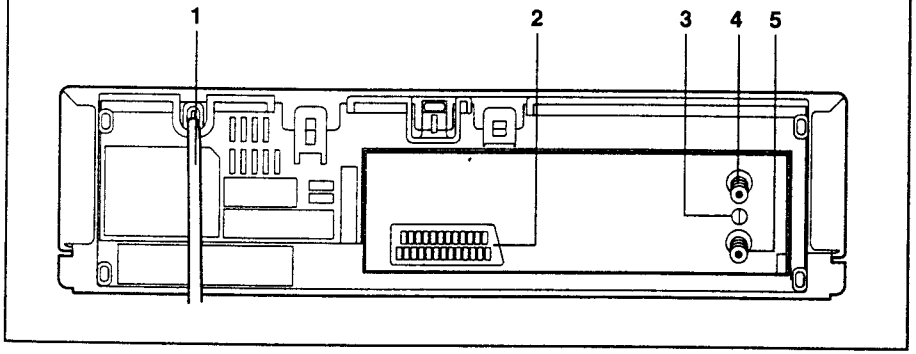
LOCATION OF CUSTOMER CONTROLS

FRONT



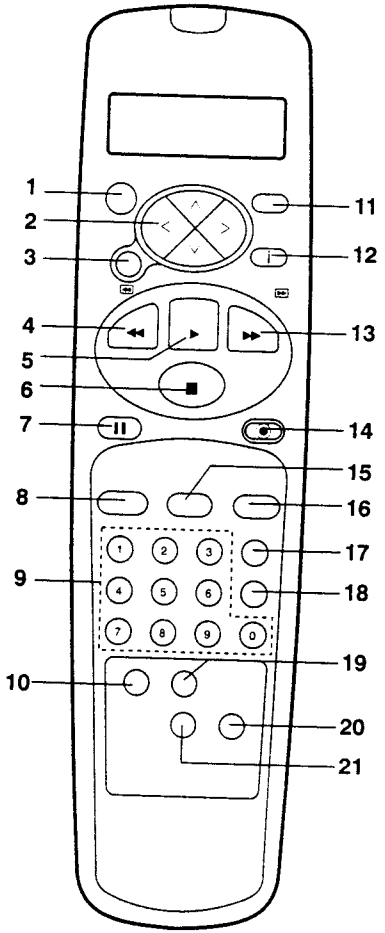
1. OPERATE
2. STOP/EJECT
3. VIDEO CASSETTE COMPARTMENT
4. REMOTE CONTROL SENSOR
5. REC/QSR
6. PLAY (x2)
7. PAUSE/STILL
8. MULTI FUNCTION DISPLAY
9. CHANNEL PROGRAMME SELECTORS
10. REWIND/REVIEW
11. FAST FORWARD/CUE

REAR



1. MAINS LEAD
2. AUDIO/VIDEO
3. VIDEO CHANNEL CONTROL
4. AERIAL INPUT
5. RF.OUT

REMOTE CONTROL



1. OPERATE
2. CURSORS (∧ ∨ 〈 〉)
3. OK
4. REWIND/REVIEW
5. PLAY(X2)
6. STOP
7. PAUSE/STILL
8. VISS
9. NUMBER BUTTONS
10. TV/VCR
11. EJECT BUTTON
12. i (MENU) : ★
13. FAST FORWARD/CUE
14. REC/QSR
15. CHILD LOCK
16. AUDIO/VIDEO MODE : ★
17. CLOCK/TAPE COUNTER/TAPE REMAINING
18. CLEAR
19. TAPE SPEED SELECT (LP) : ★
20. AUTOMATIC TRACKING
21. SHOWVIEW : ★

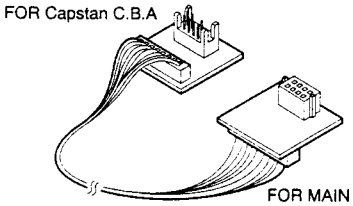
SECTION 2 CABINET & MAIN FRAME

SERVICE METHOD

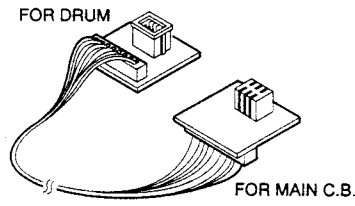
1. Electrical Service Fixture List

The Fixture uses in Deck Ass'y Checking.

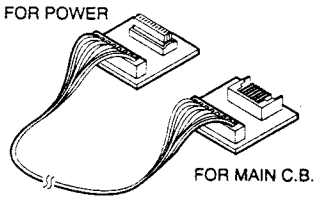
1) Fixture Cable ① (Fix.1)
Parts No: 6871R-0288A (Optional Parts)



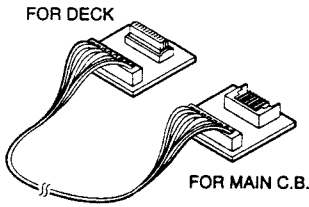
2) Fixture Cable ② (Fix.2)
Parts No: 6871R-0288B (Optional Parts)



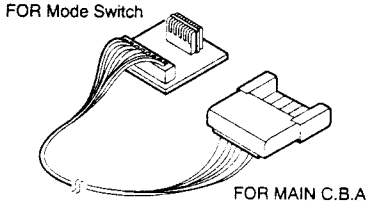
3) Fixture Cable ③ (Fix.3)
Parts No: 6871R-0288C (Optional Parts)



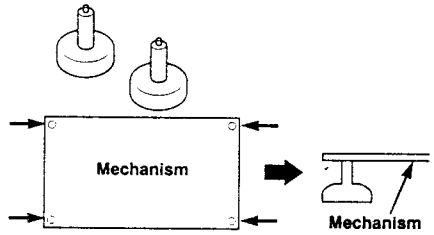
4) Fixture Cable ④ (Fix.4)
Parts No: 6871R-0288D (Optional Parts)



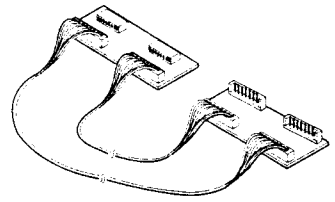
5) Fixture Cable ⑤ (Fix.5)
Parts No: 6871R-0288E (Optional Parts)



6) Fixture Cable ⑥ (Fix.6)
Parts No: 322-065A (Optional Parts)



7) Fixture Cable ⑦ (Fix.7)
Parts No: 6871R-0288J (Optional Parts)



2. SERVICE FIXTURE CONNECTING METHOD

1) Check and Replace of The Electrical Parts

▶ Disassembly Flow

① Top Case → ② Front Panel → ③ Timer C.B.A → ④ Housing & Deck Ass'y → ⑤ Power Ass'y → ⑥ Main C.B.A

a. Refer to pages 2-4, 2-5 for Disassembling.
b. Assemble inversely like figure 2-2, and check the electrical Parts.

★ Notes in Check
ⓐ Insert Video Cassette Tape inversely.
ⓑ In disassembling and assembling, be careful not to damage CST Switch.

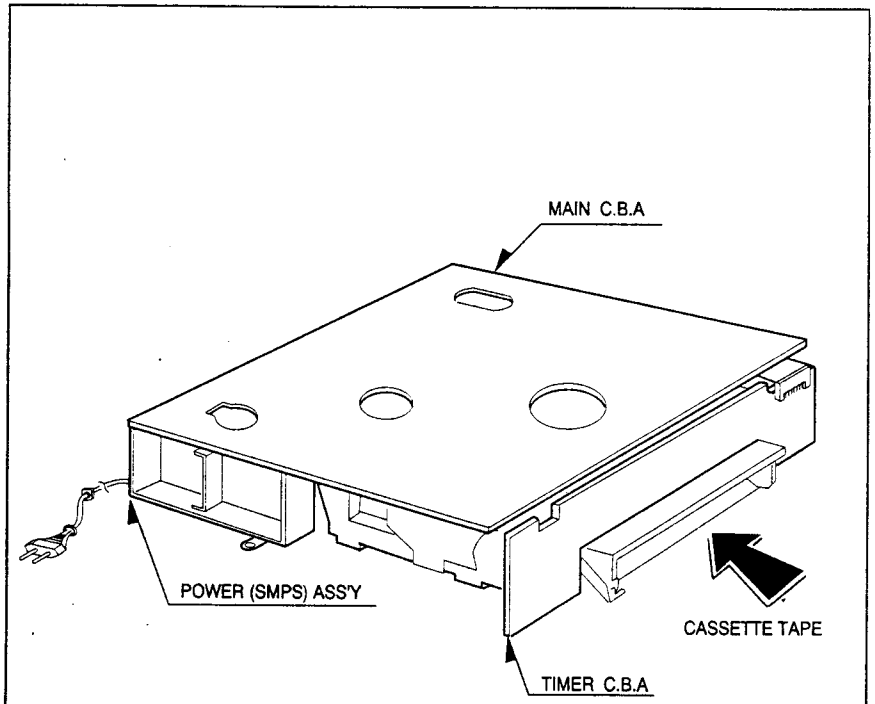


Fig. 2-2

2) Check and Replace of The Deck Ass'y

▶ Disassembly Flow

① Top Case → ② Front Panel → ③ Timer C.B.A → ④ Housing & Deck Ass'y → ⑤ Power Ass'y → ⑥ Main C.B.A

a. Refer to pages 2-4, 2-5 for Disassembling.
b. Assemble like figure 2-3, and connect with fixture 6EA.

★ Notes in Check
ⓐ Short W323 and W278 of Main C.B.A so that the End sensor (Supply sensor, Take up sensor) and supply Reel Sensor, Take up Reel Sensor are not operating.
ⓑ Insert Video Cassette Tape while pushing CST switch.
ⓒ After Eject the cassette, you must push CST switch immediately.
ⓓ In disassembling and assembling, be careful not to damage CST Switch.
ⓔ In reassembling, you must open W323, W278.
ⓕ When Fix. ②, Fix. ③, Fix. ④ will be connect, connect the blue color line with accord as like the Fig. 2-3.

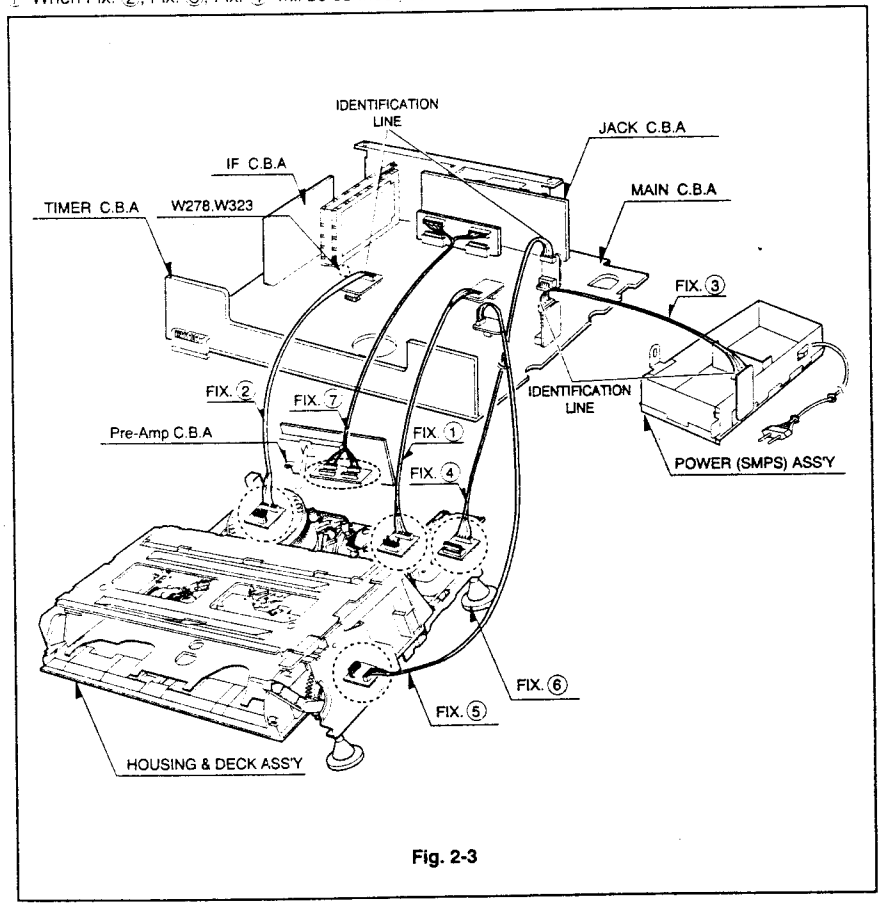


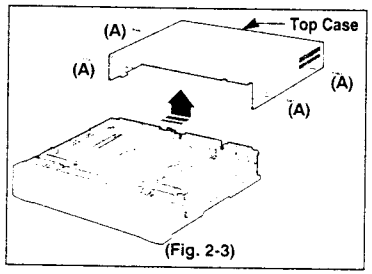
Fig. 2-3

CABINET DISASSEMBLY

▶ **Disassembly Flow**

① Top Case → ② Front Panel → ③ Housing Ass'y → ④ Deck Ass'y → ⑤ Power Ass'y → ⑥ Main C.B.A

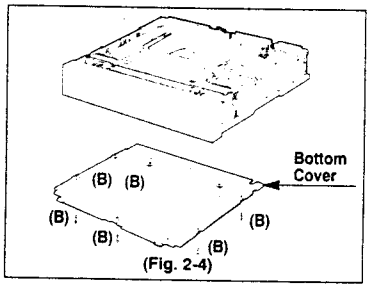
1. Top Case



(Fig. 2-3)

1. Top Case (Fig. 2-3)
1-1) Release 4 screws (A).
1-2) Lift the Top Case by holding the back and remove it in the direction of the arrow.

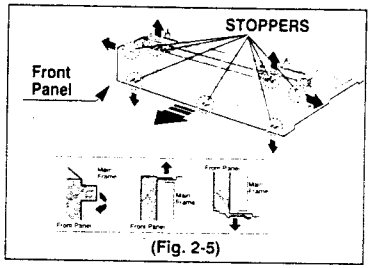
2. Bottom Cover



(Fig. 2-4)

2. Bottom Cover (Fig. 2-4)
2-1) Remove 7 screws (B) and Bottom Cover.

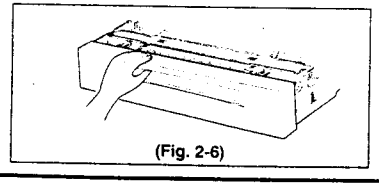
3. Front Panel



(Fig. 2-5)

3. Front Panel (Fig. 2-5)
3-1) Remove the Top Case.
3-2) Remove the Bottom Conver.
3-3) Release the 7 stoppers of the Top, Bottom and side of the front panel (C) in the direction of the arrows.

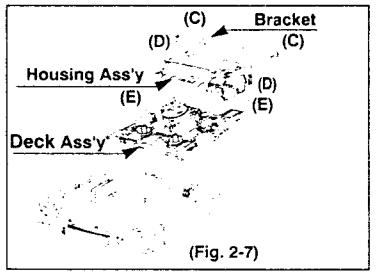
★ **Caution**


(Fig. 2-6)

★ **Caution (Fig. 2-6)**
When reassemble the front panel, assemble it in condition of inserting the Door Cassette inside, as shown in Fig. 2-6.

CIRCUIT BOARD DISASSEMBLY

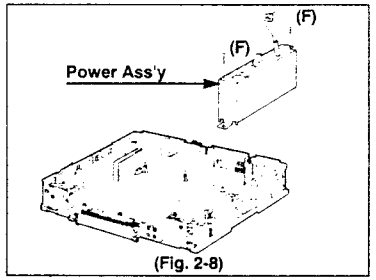
1. Housing and Deck Ass'y



(Fig. 2-7)

1. Housing and Deck Ass'y (Fig. 2-7)
1-1) Remove the Front Panel.
1-2) Remove 2 screws (C) of the Bracket.
1-3) Remove 2 screws (D) and disassemble the housing.
1-4) Remove 3 screws (E) and disassemble the deck.

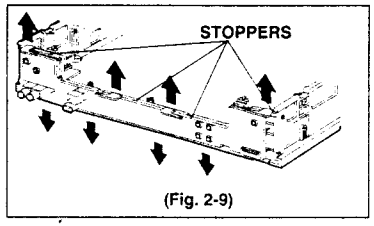
2. Power Ass'y



(Fig. 2-8)

2. Power Ass'y (Fig. 2-8)
2-1) Remove 2 screws (F).
2-2) Lift up the power Ass'y in the direction of the arrow.

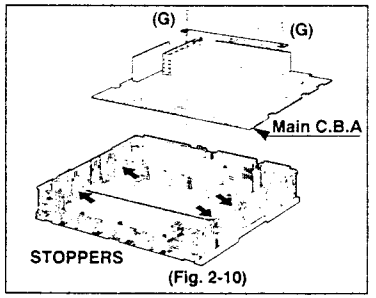
3. Timer Circuit Board



(Fig. 2-9)

3. Timer Circuit Board (Fig. 2-9)
3-1) Pull the timer circuit board toward you while pressing 8 stoppers in the direction of the arrows to disengage, and remove the timer circuit board.
3-2) Remove the connector for complete removal.

4. Main Circuit Board



(Fig. 2-10)

4. Main Circuit Board (Fig. 2-10)
4-1) Remove 1 holder C.B.A.
4-2) Remove 2 screws (G).
4-3) Pressing 4 stoppers in the direction of the small arrows and lift up the main circuit board.

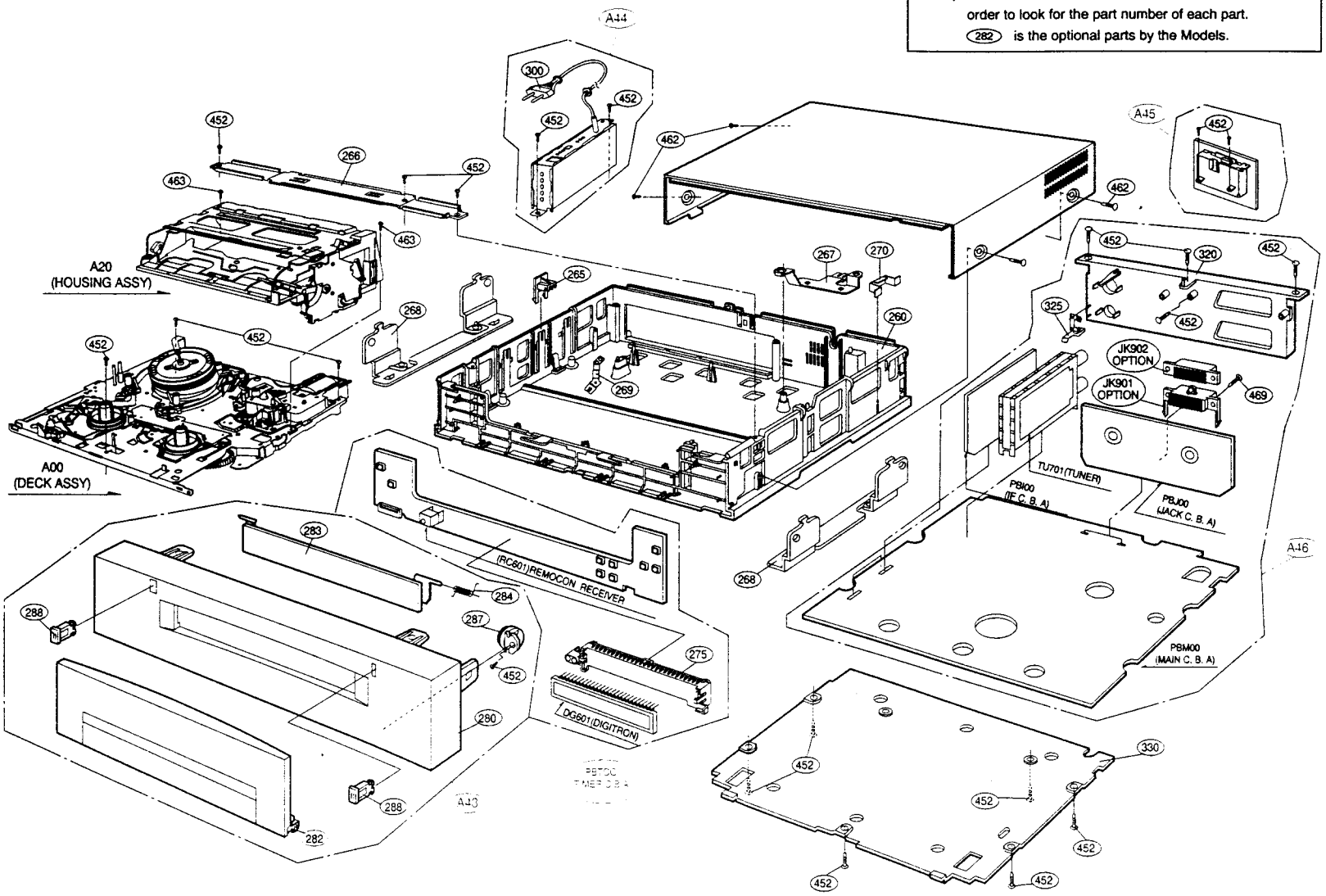
· Cabinet & Main Frame Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A43	258-799K	PANEL	ASSY FRONT	
		A44	3501R-0278T	BOARD ASSY	SMPS	
		A45	501-520E	MODULE	PRE-AMP	
		A46	3501R-0499C	BOARD ASSY	MAIN	
				PARTS SECTION		
		250	217-570C	CASE	TOP	
		260	315-347B	FRAME	MAIN(60HR)	NSP
		265	324-995A	HOLDER	PWB	
		266	321-738A	BRACKET	ASSY HOUSING	
		267	255-429A	PLATE	GND(M/F)	
		268	255-359A	PLATE	SIDE GND	
		269	255-362A	PLATE	PRE-AMP GND	
		270	321-743A	BRACKET	PROTECT	
		275	340-086A	HOLDER	DIGITRON(R-P40P'S)	
		280	258-807E	PANEL	FRONT	NSP
		283	226-100Z	DOOR	CST	
		284	442-681A	SPRING	DOOR	
		300	681-054A	CORD	KKP-419C(PAL) TERMINAL TYPE	
	OR	300	681-254A	CORD	EP-11 LTFE-2F (PAL) TERMINAL	
		320	258-728J	PANEL	ASSY DISTRIBUTOR	
		330	220-050A	COVER	BOTTOM	
				SCREW		
		452	353-051A	SCREW	SPECIAL(3X10 FZMY)	
		462	353-136A	SCREW	SPECIAL(4.6X12.5 FBK)	
		469	353-046K	SCREW	SPECIAL (3X10 B.K)	

EXPLODED VIEWS

1. Cabinet & Mainframe Section

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
(282) is the optional parts by the Models.

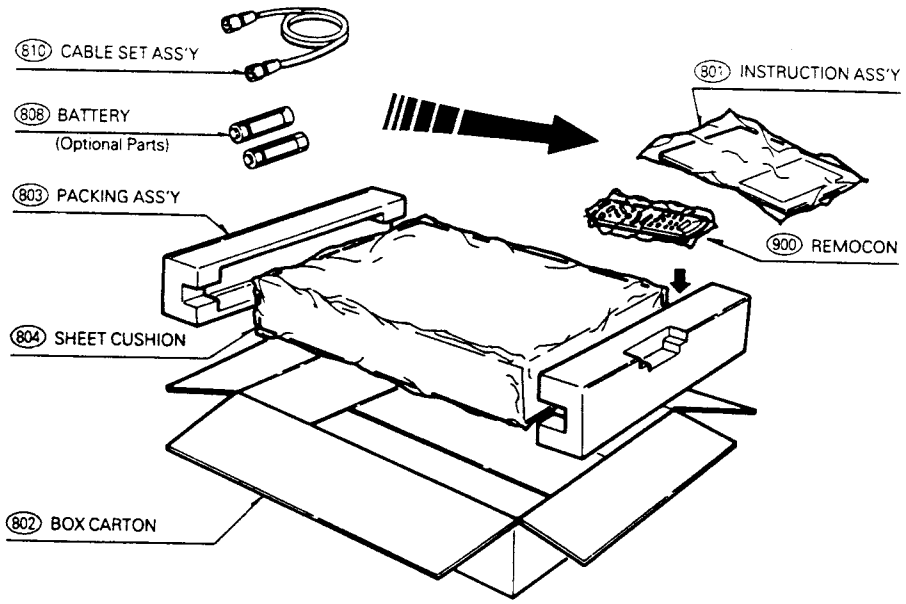


LOCATION GUIDE

A 00	A 3
A 20	A 4
A 43	C 1
A 44	D 5
A 45	G 5
A 46	H 3
PBT 00	D 1
PBI 00	G 3
PBJ 00	G 3
PBAFC	F 2
PBM 00	G 2
RC 601	D 2
TU 701	G 3
JK 901	G 3
JK 902	G 4
250	F 5
260	F 4
265	D 4
266	C 5
267	E 4
268	C 4
269	D 4
275	E 2
280	C 2
282	B 1
283	B 3
284	D 2
287	C 2
288	C 1
300	D 5
320	H 4
325	G 4
330	G 2

2. Packing & Accessory Section

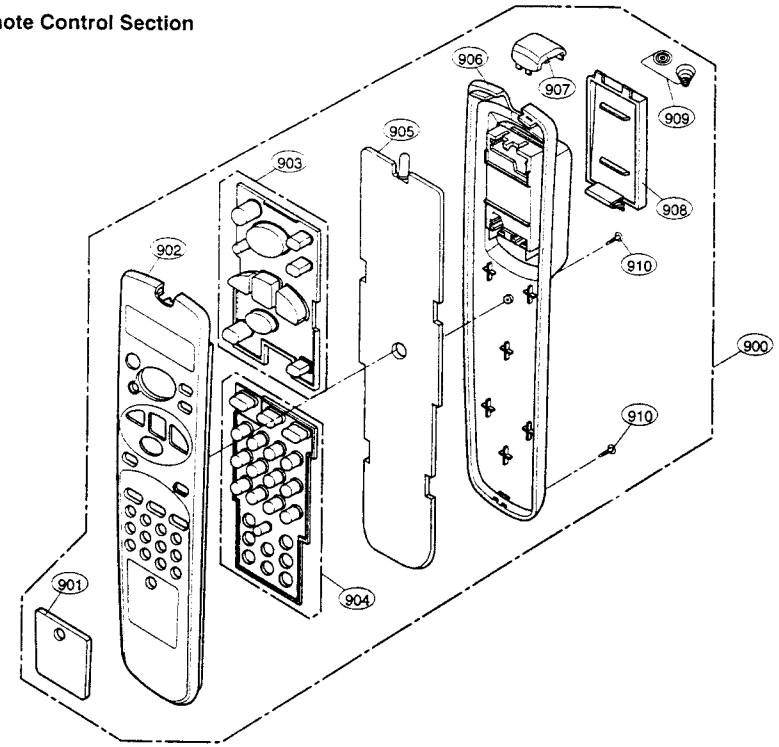
NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



· Packing Accesscry Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		801	480-661K	INSTRUCTION ASSY		
		802	290-426K	BOX CARTON		
		803	283-292A	PACKING		
		804	291-002B	SHEET CUSHION		NSP
		808	534-008C	BATTERY	AAAM(R03) 1.5V	
		810	861-505B	CABLE SET ASSY	RF-CABLE,ASSY,PAL	

3. Remote Control Section



· Remote Control Section

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		900	597-125Y	REMOTE CONTROL	ASSY	
		901	255-409T	PLATE	TOP(P43HW)	
		902	217-611A	CASE	TOP (M3 R/C)	
		903	556-270A	SWITCH	RUBBER-A (M3)	
		904	556-271Q	SWITCH	RUBBER-B(M3)	
		905	6871R-0406A	PWB ASSY!	M3 R/C NORMAL	
		906	220-136A	COVER	BOTTOM (M3)	
		907	236-585A	WINDOW	FILTER (M3)	
		908	220-137A	COVER	BATTERY (M3)	
		909	442-729A	SPRING	BATTERY-A	
		910	1TPH0202016	PAN HEAD TAPPING SCREW + 2	D 2.0 L 6.0 MSWR3/(BK)	

ELECTRICAL ADJUSTMENT PROCEDURES

Electronic Test Equipment

- Oscilloscope
- Video Signal Generator
- Level Meter
- + Driver
- Test Tape (SP)
- Recording Tape
- Digital Multimeter
- Monitor Scope
- Power Supply

ABBREVIATIONS

- SPEC: Specification
- M.P: Measurement Point
- A.P: Adjustment Point

1. Servo Circuit

1) PG Adjustment

Purpose:

For the phase dividing of the Video A,B heads with 180° and the exact tracing of each track to meet head switching point with VHS Spec.

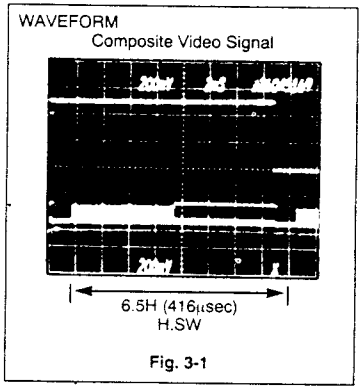


Fig. 3-1

1-1) Record PG Adjustment

- MODE: Record
- SPEC : 416±50μsec
- M.P : TP302 (H.SW)
  JK701 Pin① (Video Out)
- A.P : VR502

1-2)Playback PG Adjustment

- MODE: Playback
- SPEC : 6.5H±0.5H
  (416μsec, 1H=64μsec)
- M.P : TP302 (H.SW)
  JK701 pin① (Video Out)
- A.P : VR501

1-1) Record PG Adjustment

Procedure:

a. Set the VCR to A/V mode.
b. Connect CH-1 terminal of oscilloscope to TP302 (H.SW) and CH-2 terminal to video out terminal (JK701 pin①) of VCR.
c. Input the Video signal to Video Input Jack.
d. Record in PAL SP mode.
e. Trigger the complex Video signal of CH2 to CH-1 (H.SW), and adjust VR502 so that the distance from A(B) head selection point of H.SW signal to the starting point of Vertical synchronized signal is 416±50μsec.

Reference:

1. Record PG Adjustment is proceed in the Record mode and must be input video signal.
2. The deviation between A/B Head Adjustment location should be within ±0.5H (32μsec).
3. The deviation between the specification of adjustment and the practical measurement value should be within ±50μsec.
4. Oscilloscope and VCR set should be connected with GND.
5. When the Power Ass'y of set is changed, you should be readjust Record PG.

1-2) Playback PG Adjustment

Procedure:

a. Playback a PAL SP test tape.
b. At this time, the "ATR" is lighting, after pressing the A.TR (+) or A.TR(-) and adjust the X-Value.
c. Connect CH-1 terminal of oscilloscope to TP302(H.SW) and CH-2 terminal to Video Out terminal (JK701 pin①) of VCR.
d. Trigger the complex Video signal of CH2 to CH-1(H.SW), and adjust VR501 so that the distance from A(B) head selection point of H.SW signal to the starting point of Vertical synchronized signal is 6.5H (416μsec, 1H= 64μsec).
e. The conversion of A/B Head SW signal uses the Polarity Invert Knob of oscilloscope.

Reference:

1. ±PG adjustment is proceed in the state of maximum RF level and locked servo system (MTR Mode).
2. The deviation between A/B Head Adjustment location should be within ±0.5H (32μsec).
3. The deviation between the specification of adjustment and the practical measurement value should be within ±0.5H (32μsec).
4. Oscilloscope and VCR set should be connected with GND.

2. Audio Circuit

1) Record Bias Adjustment

- MODE : Record
- SPEC : 3.0mV±0.1mV RMS
- M.P : W105 (+)
  W106 (-)
- A.P : VR401

Purpose:

This is adjusting the bias current to specification in recording.

Procedure:

a. Connect (+) terminal of the Level Meter to W105 (+).
b. Connect (-) terminal of the Level Meter to W106 (-).
c. Confirm that the Oscillation Voltage is 3.0mV± 0.1mV RMS.
d. At this time, adjust VR401 and make the oscillation voltage fit to specification.

3. Tuner/IF Circuit

1) VCO (Voltage Controlled Oscillation) Adjustment

- MODE : PAL B/G (38.9MHz)
- SPEC : DC 2.5±0.1V
- M.P : P7M02 pin⑤ (AFC CTL)
- A.P : T750 AFC
  (Automatic Frequency Control)
  (VCO COIL)

Procedure:

a. Connect as shown in Fig. 3-2.
b. Input the PAL B/G 38.9MHz (Strength of input electric field: 75±5dBu) signal Out Terminal of TV RF Pattern GEN instrument.
c. Confirm that the video signal is Output by connect oscilloscope to P7M01 ②PIN.
d. Adjust VCO coil T750 so that the voltage of P7M02 pin⑤ became DC 2.5±0.1V.

Connection

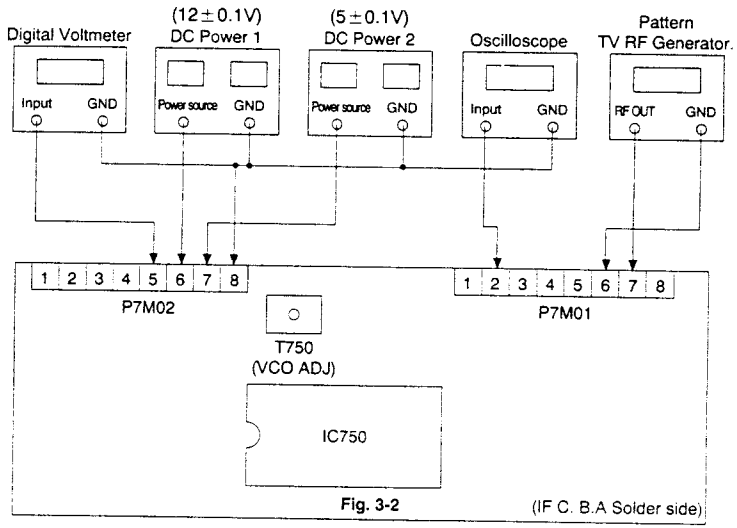


Fig. 3-2

2) RF AGC (Automatic Gain Control) Adjustment

- MODE : EE 11CH
- SPEC : 6.0±0.1V p-p
- M.P : W393
- A.P : VR701

Procedure:

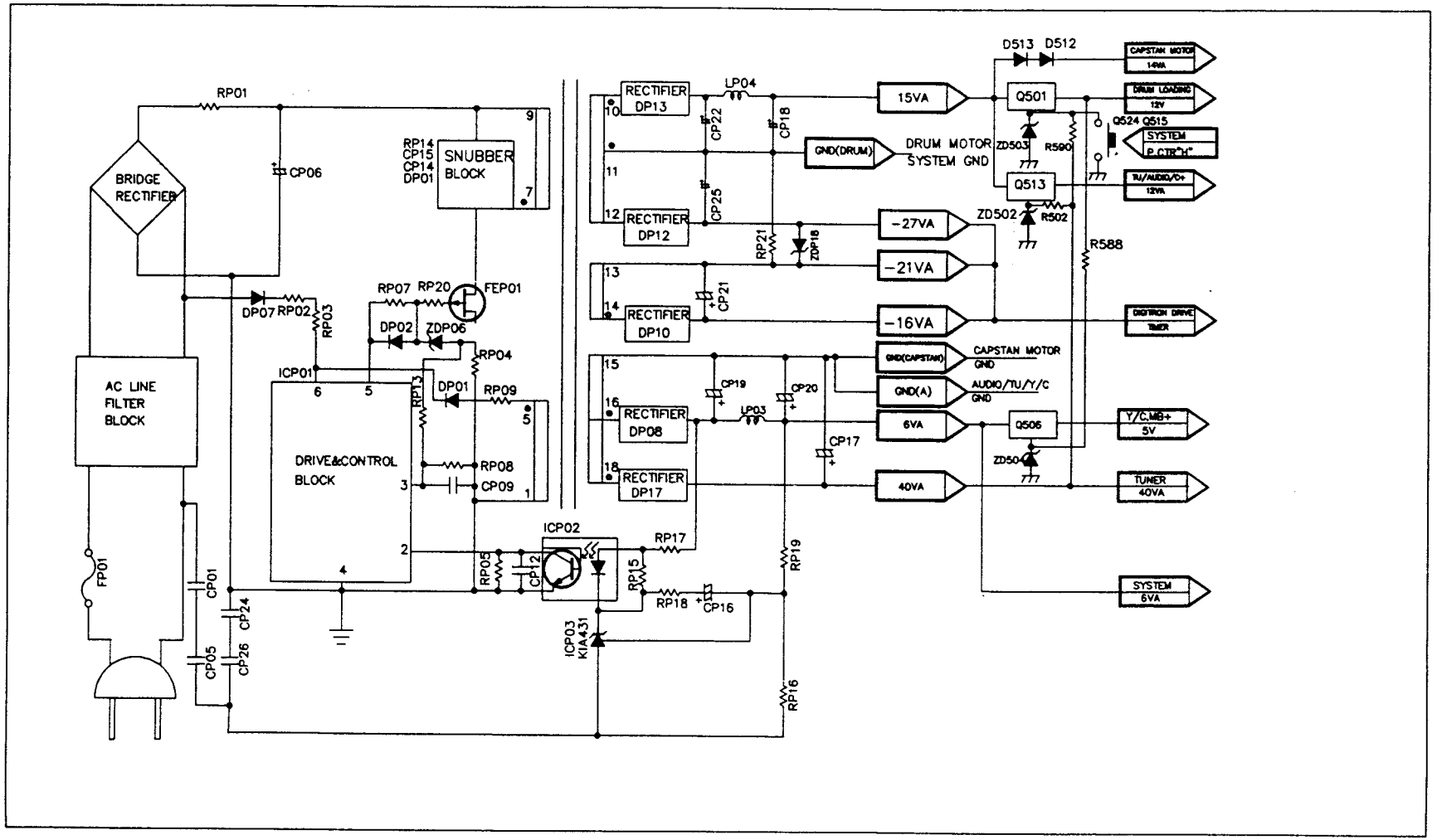
a. Be tuning PAL 11CH (strength of input electric field: 70±1dBu).
b. Connect the Digital Voltmeter to Tuner AGC PIN.
c. Adjust VR701 so that the digital voltmeter is 6.0 ± 0.1V p-p.

Reference:

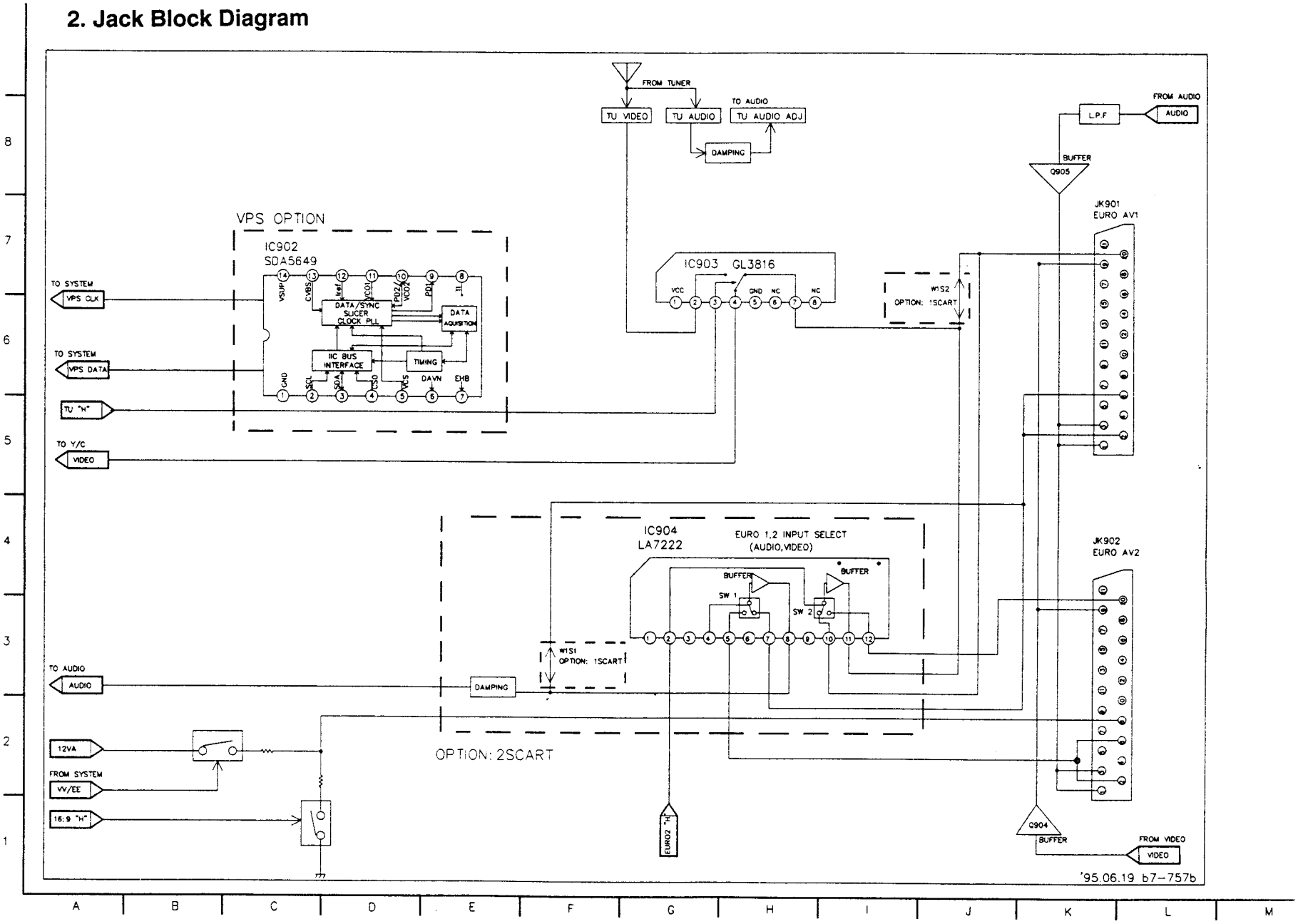
Maintain the input gain in adjusting AGC faithfully.

BLOCK DIAGRAMS

1. Power (SMPS) Block Diagram

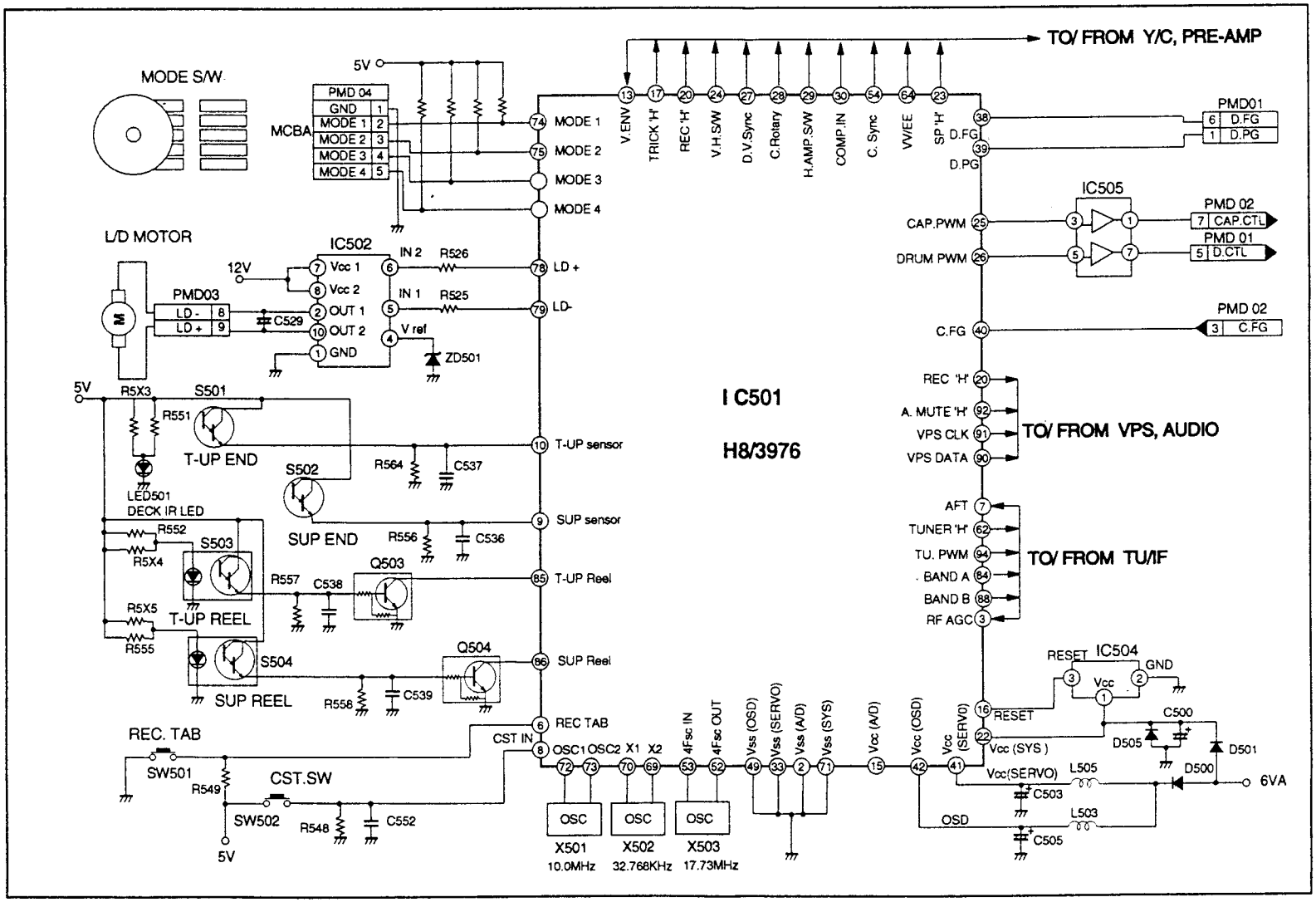


2. Jack Block Diagram



3. Servo/Syscon & Audio & Tuner & IF Block Diagrams

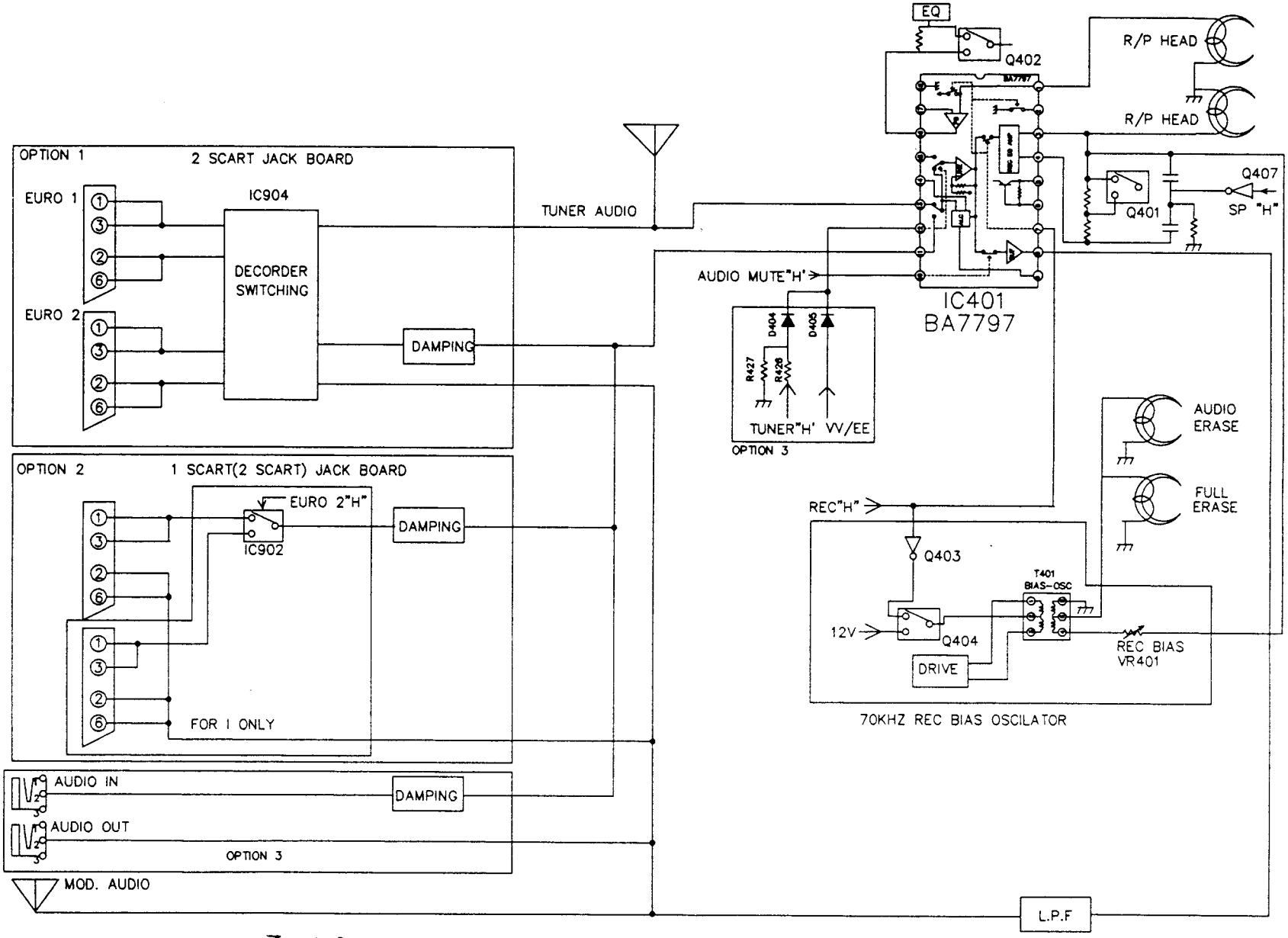
- **Servo/Syscon**



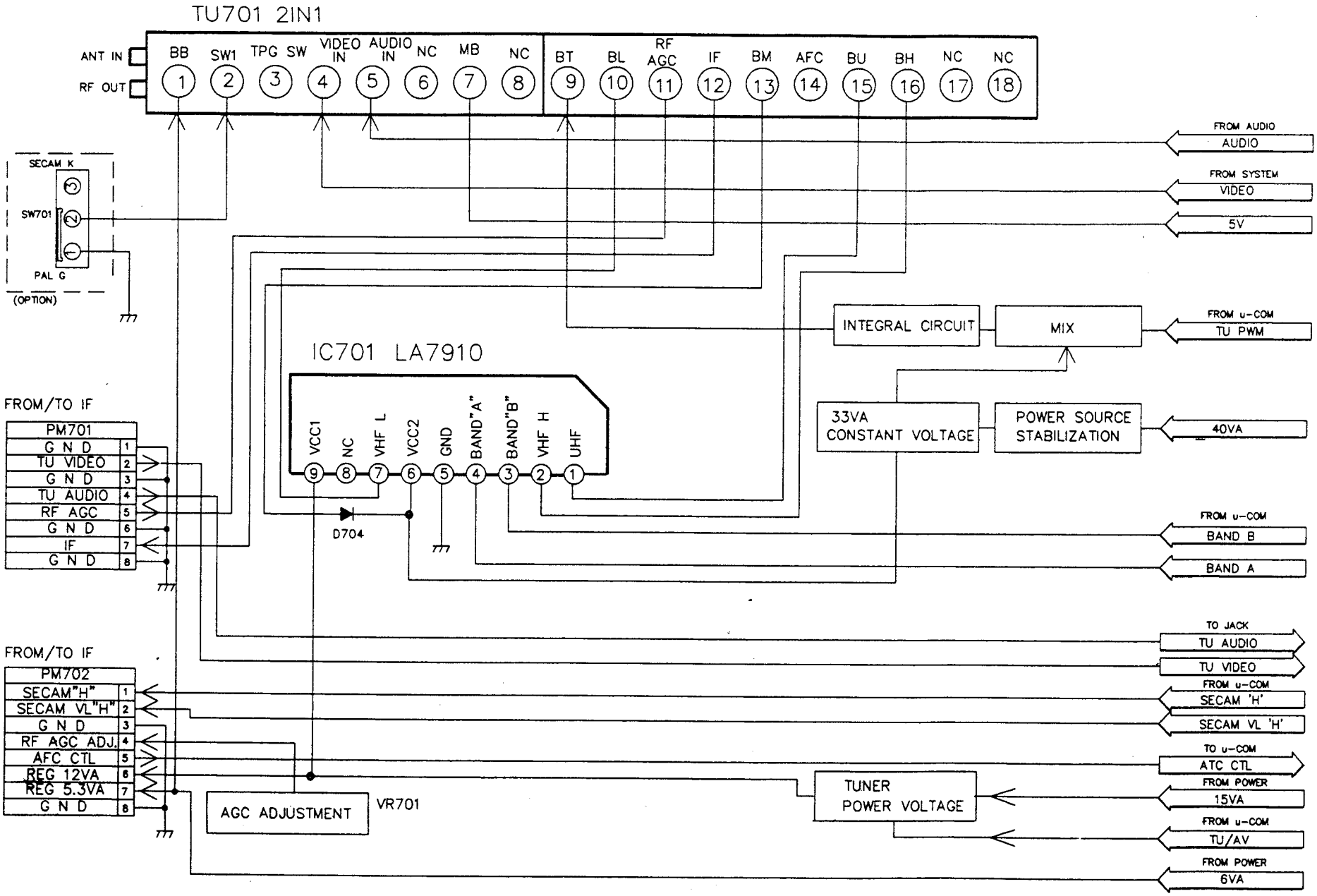
3-5A

3-6A

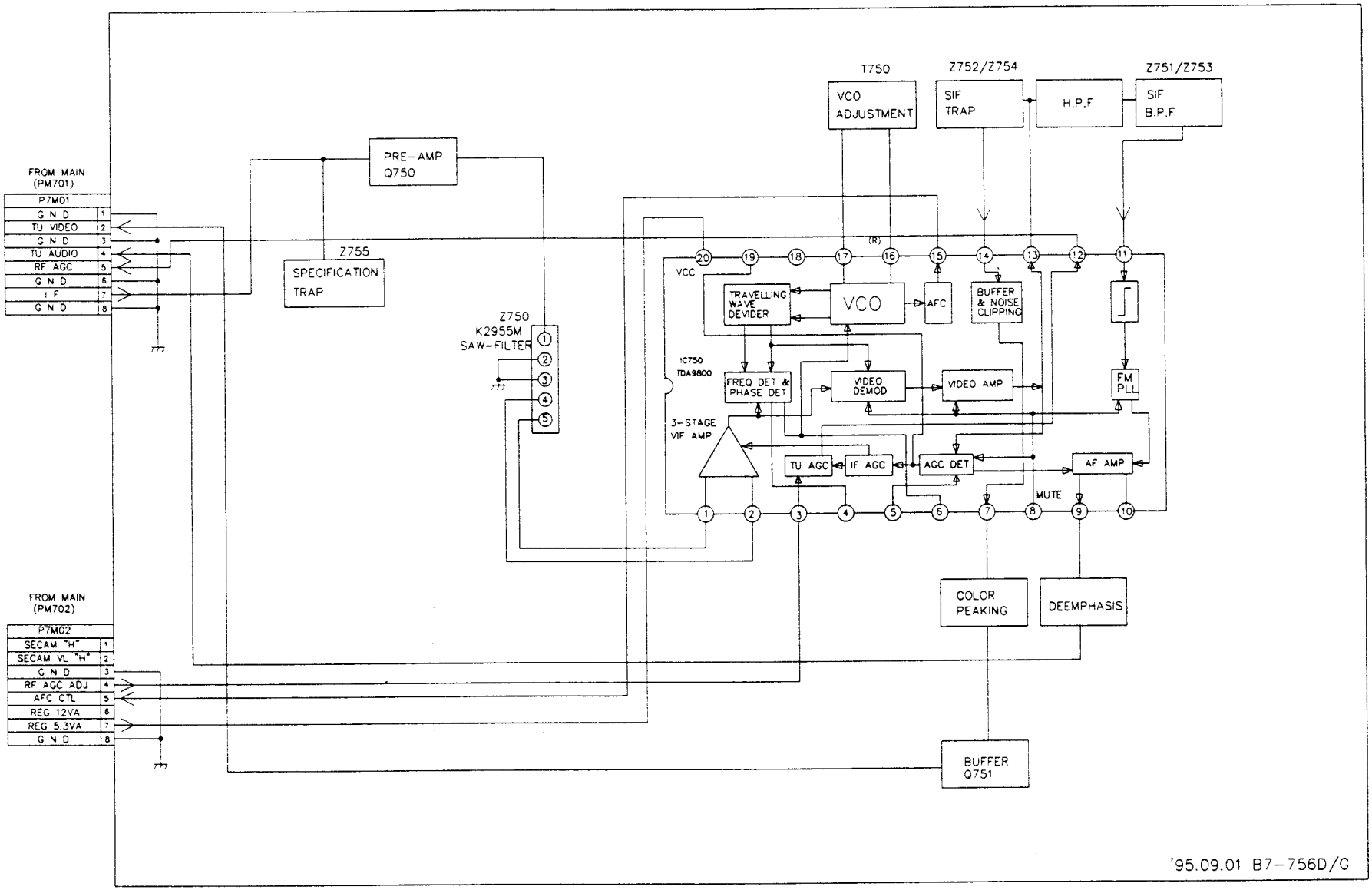
• Audio


OPTION 1
2 SCART JACK BOARD
EURO 1
EURO 2
IC904
DECORDER SWITCHING
DAMPING
TUNER AUDIO
OPTION 2
1 SCART(2 SCART) JACK BOARD
EURO 2"H"
IC902
DAMPING
FOR I ONLY
AUDIO IN
AUDIO OUT
DAMPING
OPTION 3
MOD. AUDIO
EQ
Q402
R/P HEAD
R/P HEAD
Q407
SP "H"
Q401
AUDIO MUTE"H"
IC401
BA7797
D404
D405
R427
R428
TUNER"H" VV/EE
OPTION 3
AUDIO ERASE
FULL ERASE
REC"H"
Q403
T401
BIAS-OSC
12V
Q404
DRIVE
REC BIAS VR401
70KHZ REC BIAS OSCILATOR
L.P.F
3-5B
3-6B

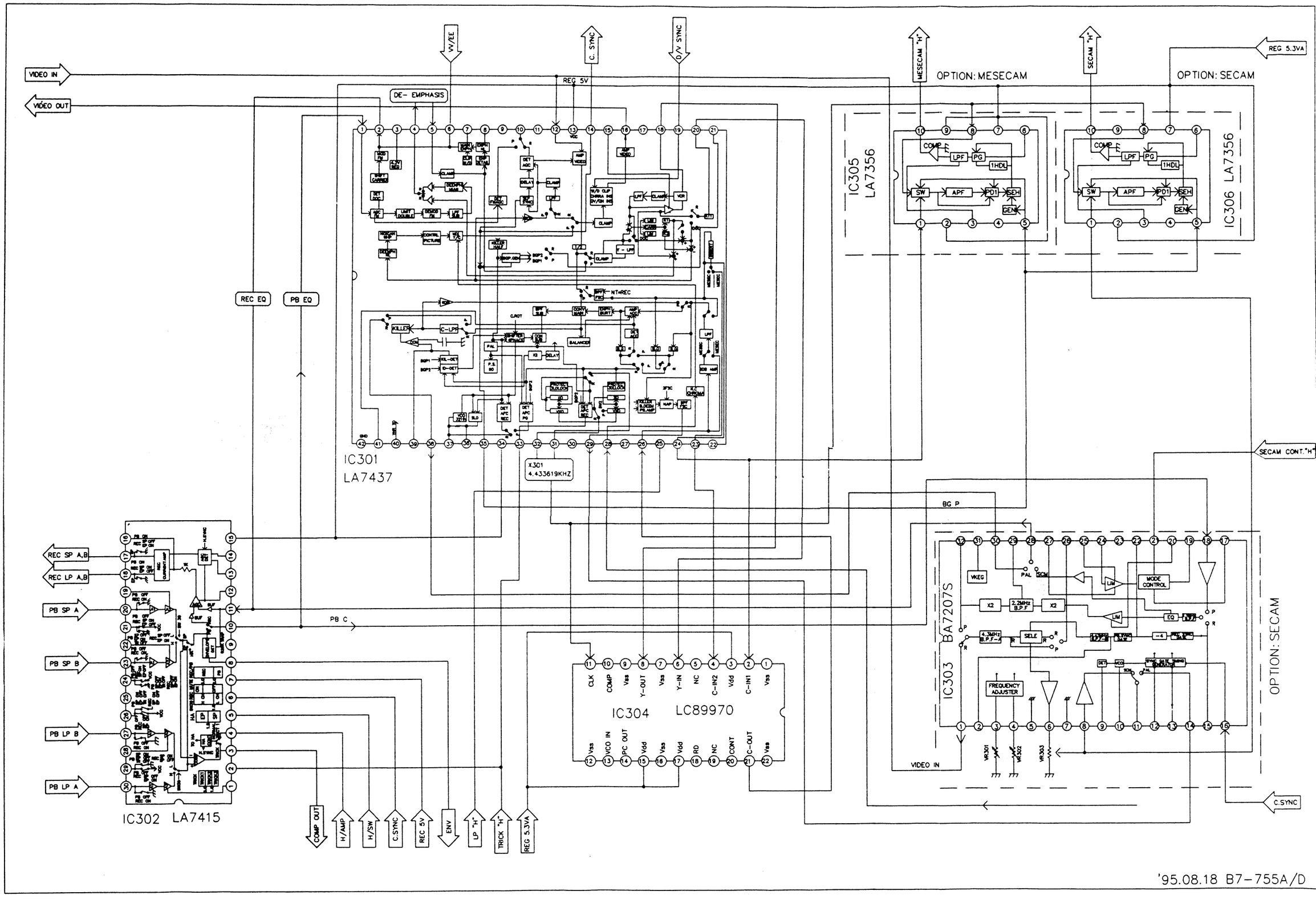
• Tuner


TU701 2IN1
ANT IN
RF OUT
BB
SW1
TPG SW
VIDEO IN
AUDIO IN
NC
MB
NC
BT
BL
RF AGC
IF
BM
AFC
BU
BH
NC
NC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
SECAM K
SW701
PAL G
(OPTION)
FROM AUDIO
AUDIO
FROM SYSTEM
VIDEO
5V
INTEGRAL CIRCUIT
MIX
FROM u-COM
TU PWM
IC701 LA7910
VCC1
NC
VHF L
VCC2
GND
BAND"A"
BAND"B"
VHF H
UHF
D704
33VA
CONSTANT VOLTAGE
POWER SOURCE
STABILIZATION
40VA
FROM/TO IF
PM701
G N D 1
TU VIDEO 2
G N D 3
TU AUDIO 4
RF AGC 5
G N D 6
IF 7
G N D 8
FROM u-COM
BAND B
BAND A
TO JACK
TU AUDIO
TU VIDEO
FROM/TO IF
PM702
SECAM"H" 1
SECAM VL"H" 2
G N D 3
RF AGC ADJ. 4
AFC CTL 5
REG 12VA 6
REG 5.3VA 7
G N D 8
FROM u-COM
SECAM 'H'
SECAM VL 'H'
TO u-COM
ATC CTL
FROM POWER
15VA
FROM u-COM
TU/AV
FROM POWER
6VA
AGC ADJUSTMENT
VR701
TUNER
POWER VOLTAGE

• IF Block Diagram



4. Y/C Block Diagram

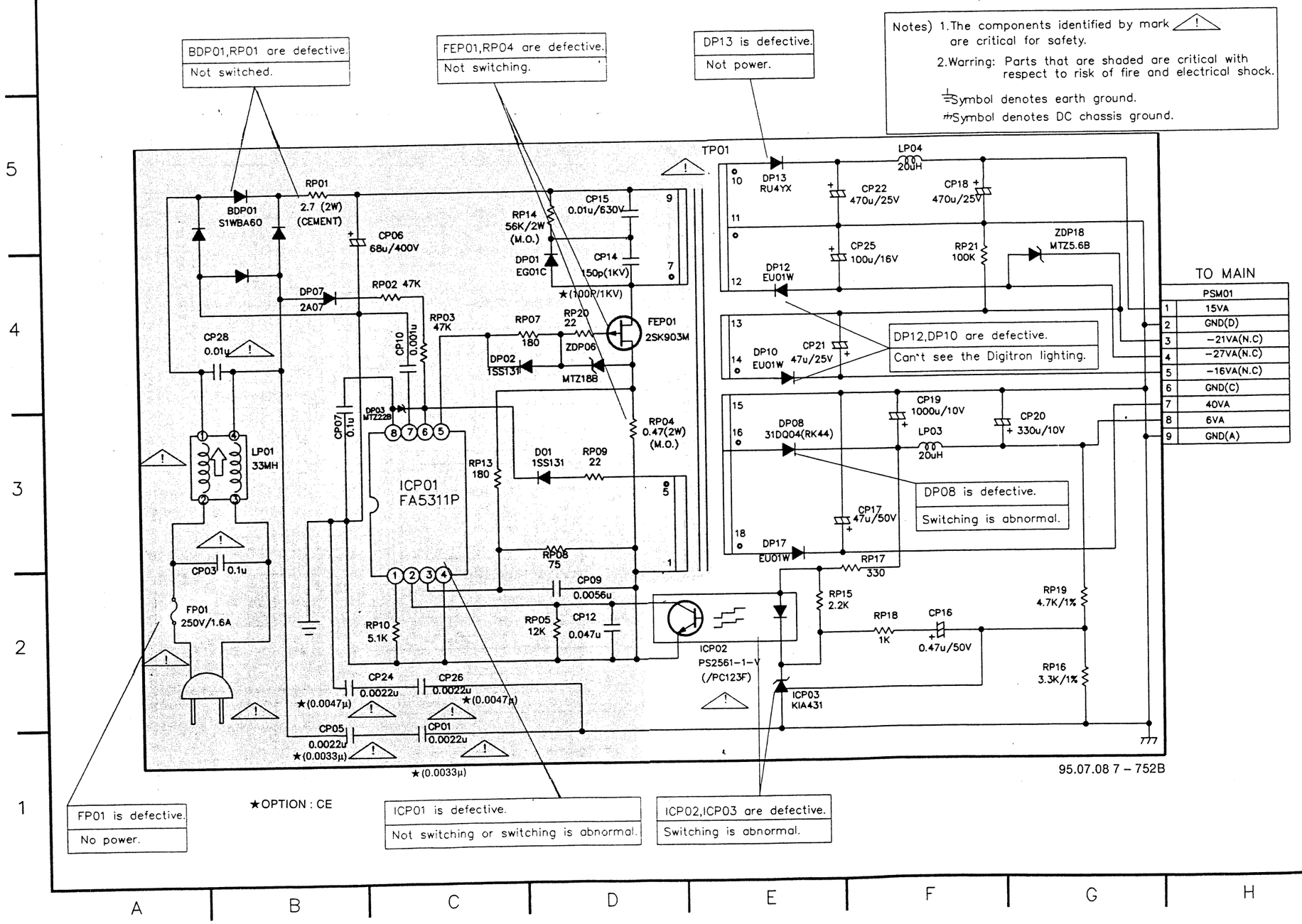


A | B | C | D | E | F | G | H | I | J | K | L | M | N | O

3-11 3-12 3-13 3-14

CIRCUIT DIAGRAMS

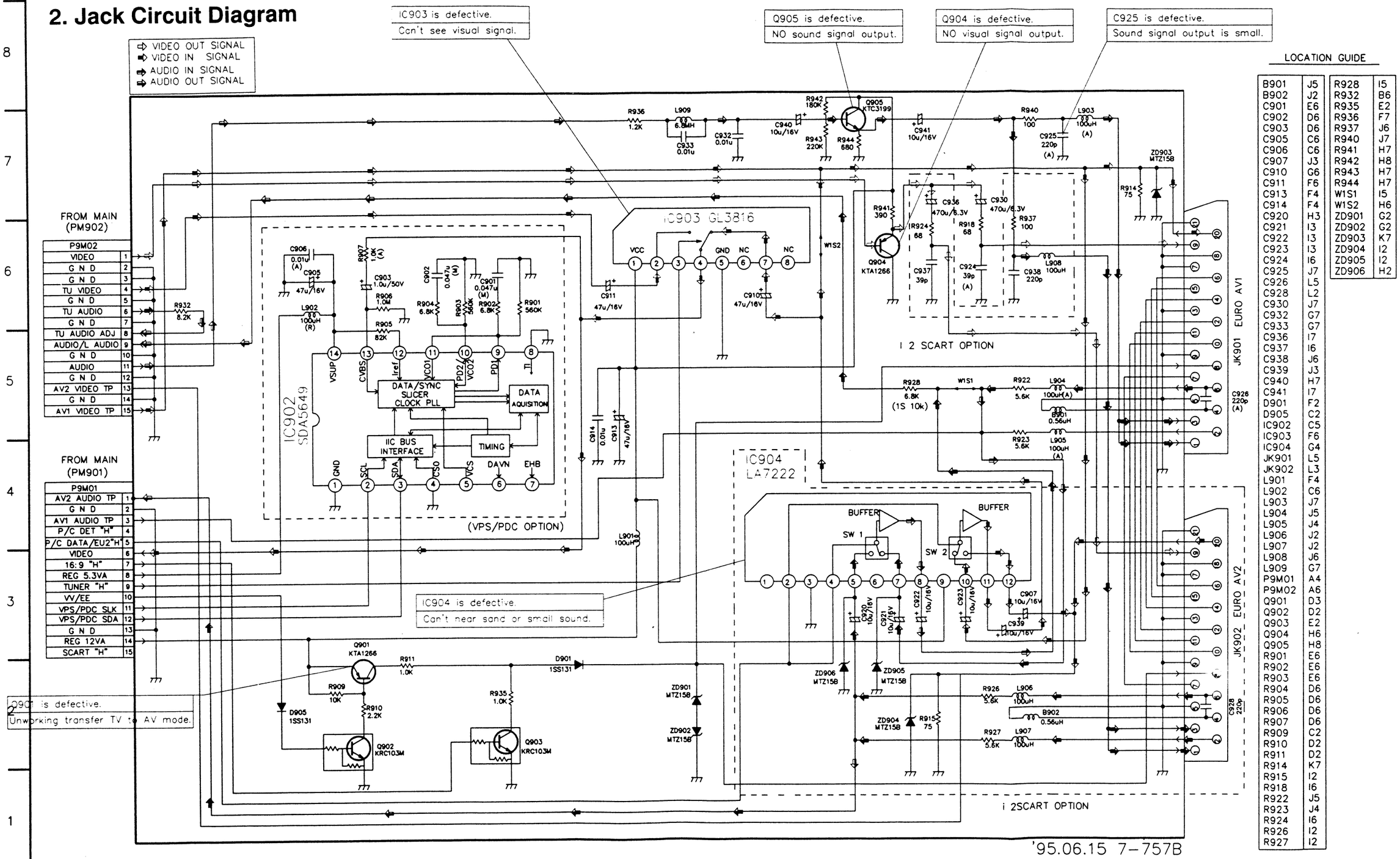
1. Power (SMPS) Circuit Diagram



LOCATION GUIDE

BDP01	B5	RP18	F2
CP01	B1	RP19	G2
CP03	A2	RP20	D4
CP05	C1	RP21	F4
CP06	C5	ZDP06	D4
CP07	B3	ZDP18	G5
CP09	D2		
CP10	C4		
CP12	D2		
CP14	D4		
CP15	D5		
CP16	F2		
CP17	F3		
CP18	F5		
CP19	F3		
CP20	G3		
CP21	E4		
CP22	F5		
CP24	C2		
CP25	F4		
CP26	C2		
CP28	B4		
D01	D3		
DP01	C4		
DP02	C4		
DP07	B4		
DP08	E3		
DP10	E4		
DP12	E4		
DP13	E5		
DP17	E3		
FEP01	D4		
FP01	A2		
ICP01	C3		
ICP02	E2		
ICP03	E2		
LP01	B3		
LP03	F3		
LP04	F5		
PSM01	H4		
RP01	B5		
RP02	C4		
RP03	C4		
RP04	D3		
RP05	D2		
RP07	C4		
RP08	D3		
RP09	D3		
RP10	C2		
RP13	C3		
RP14	C5		
RP15	E2		
RP16	G2		
RP17	F2		

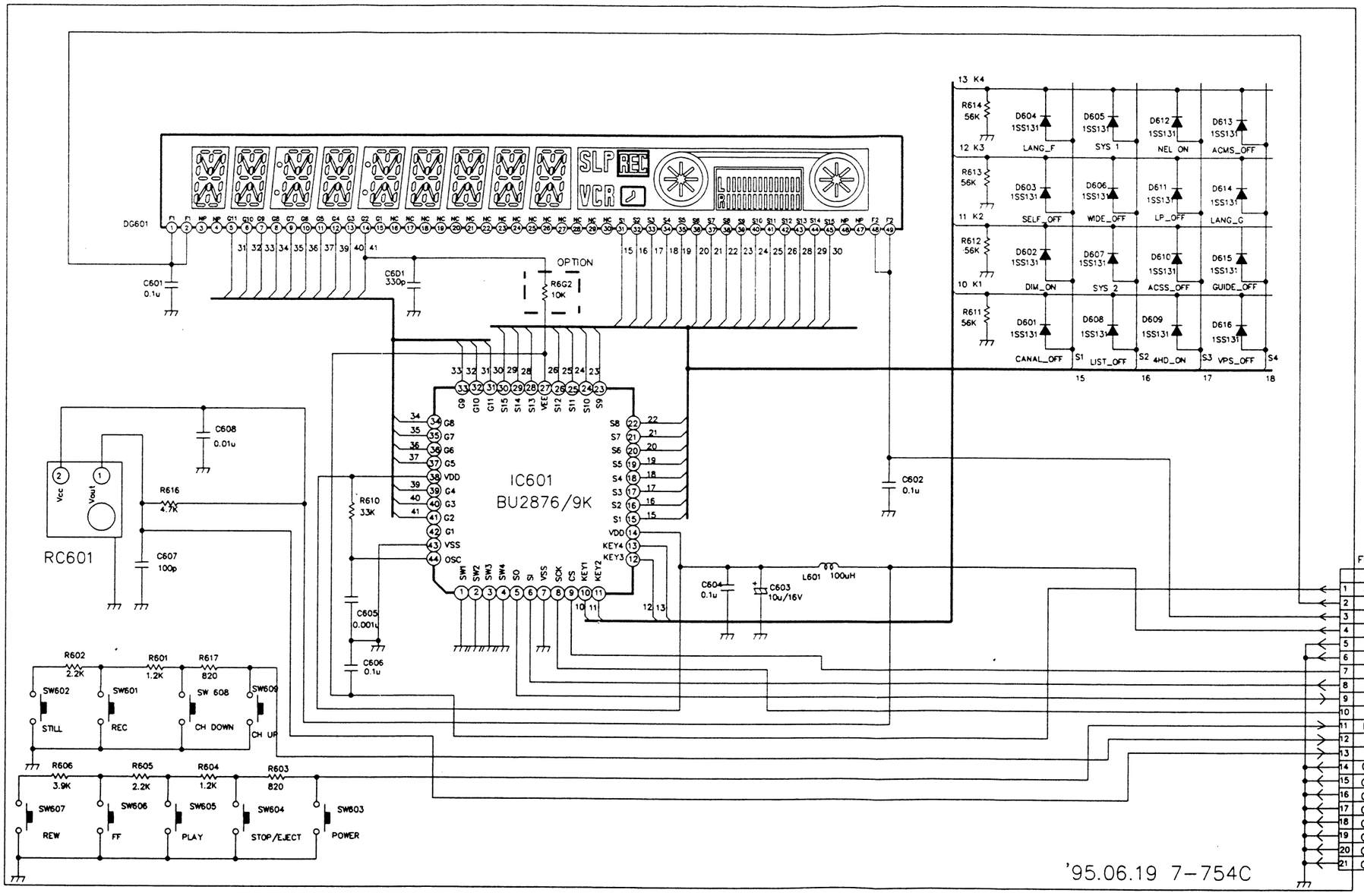
2. Jack Circuit Diagram



LOCATION GUIDE

B901	J5	R928	I5
B902	J2	R932	B6
C901	E6	R935	E2
C902	D6	R936	F7
C903	D6	R937	J6
C905	C6	R940	J7
C906	C6	R941	H7
C907	J3	R942	H8
C910	G6	R943	H7
C911	F6	R944	H7
C913	F4	W1S1	I5
C914	F4	W1S2	H6
C920	H3	ZD901	G2
C921	I3	ZD902	G2
C922	I3	ZD903	K7
C923	I3	ZD904	I2
C924	I6	ZD905	I2
C925	J7	ZD906	H2
C926	L5		
C928	L2		
C930	J7		
C932	G7		
C933	G7		
C936	I7		
C937	I6		
C938	J6		
C939	J3		
C940	H7		
C941	I7		
D901	F2		
D905	C2		
IC902	C5		
IC903	F6		
IC904	G4		
JK901	L5		
JK902	L3		
L901	F4		
L902	C6		
L903	J7		
L904	J5		
L905	J4		
L906	J2		
L907	J2		
L908	J6		
L909	G7		
P9M01	A4		
P9M02	A6		
Q901	D3		
Q902	D2		
Q903	E2		
Q904	H6		
Q905	H8		
R901	E6		
R902	E6		
R903	E6		
R904	D6		
R905	D6		
R906	D6		
R907	D6		
R909	C2		
R910	D2		
R911	D2		
R914	K7		
R915	I2		
R918	I6		
R922	J5		
R923	J4		
R924	I6		
R926	I2		
R927	I2		

3. Timer Circuit Diagram

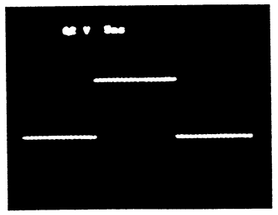


LOCATION GUIDE

C601	B5
C602	H4
C603	G3
C604	F3
C605	D3
C606	D3
C607	B3
C608	C4
C6D1	D6
D601	I5
D602	I6
D603	I6
D604	I7
D605	I7
D606	I6
D607	I6
D608	I5
D609	I5
D610	J6
D611	I6
D612	J7
D613	J7
D614	J6
D615	J6
D616	J5
DG601	B6
IC601	E4
L601	G3
PT601	K3
R601	B3
R602	B3
R603	C2
R604	C2
R605	B2
R606	A2
R610	D4
R611	H5
R612	H6
R613	H6
R614	H7
R616	B4
R617	C3
R6G2	E5
RC601	A3
SW 608	C2
SW601	B3
SW602	A3
SW603	D2
SW604	C2
SW605	B2
SW606	B2
SW607	A2
SW609	C3

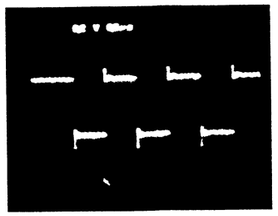
★ Servo Oscilloscope Waveform

①



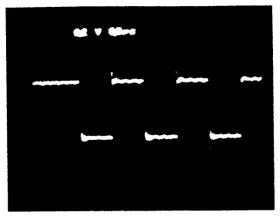
IC501 PIN ㉔
V. H/SW
0.2V/5msec

②



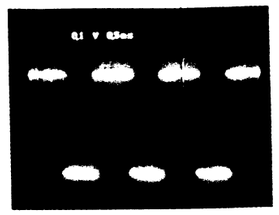
IC501 PIN ㉕
CAP. PWM
0.2V/0.5µsec

③



IC501 PIN ㉖
DRUM PWM
0.2V/0.5µsec

④

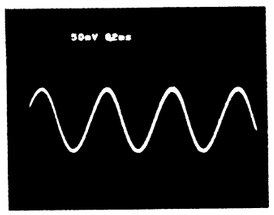


IC501 PIN ㊳
D. FG
0.1V/0.5msec

⑤

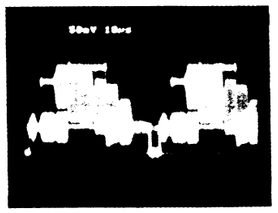
IC501 PIN ㉝
D. PG
0.1V/1msec

⑥



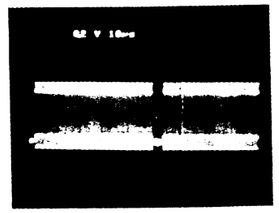
IC501 PIN ㊸
CAPSTAN FG
50mv/0.2msec

⑦



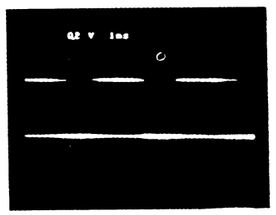
IC501 PIN ㊺
C. VOUT
50mv/10µsec

⑧



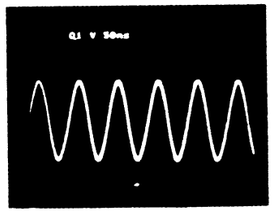
IC501 PIN ㊶
DOSC OUT
0.2V/10µsec

⑨



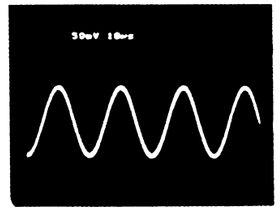
IC501 PIN ㊿
FLD OUT
0.2V/1msec

⑩



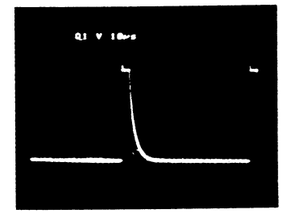
IC501 PIN ㉓
OSC 2
0.1V/50nsec

⑪



IC501 PIN ⑳
X 1
50mv/10µsec

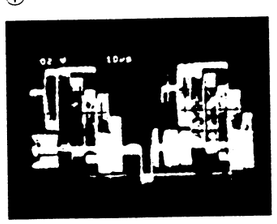
⑫



IC501 PIN ㉞
C. SYNC
0.1V/10µsec

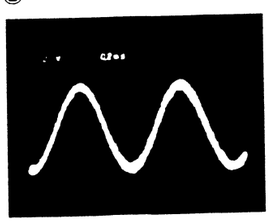
★ Tuner Oscilloscope Waveform

①



VIDEO IN
0.1V/10µS:EE

②



Audio In
50mV/200µsec

★ Servo/Syscon IC Voltage Sheet

PB(REC)

	5 (5)	5 (5)	5 (5)	0 (0)	5 (5)	5 (5)	5 (5)	4.2 (4.2)	0 (5)	5 (5)	5 (5)	5 (5)	0 (0)	5 (5)	5 (5)	5 (5)	4.8 (4.8)	5 (5)	5 (5)	0 (0)	
5 (5)	100					95					90					85				80	0 (0)
0 (0)	1																				5 (5)
4 (4)																					5 (5)
0 (0)																					5 (5)
5 (5)	5																				0 (0)
0 (5)																				75	5 (5)
4.5 (4.5)																					5 (5)
0 (0)																					4 (4)
0 (0)																					3 (3)
0.1 (0)	10																				0 (0)
5 (5)																				70	0.8 (0.8)
5 (5)																					2.5 (2.5)
1.5 (0)																					0 (0)
2.5 (2.5)																					0 (0)
5 (5)	15																				0 (0)
5 (5)																				65	5 (5)
0 (0)																					5 (0)
0 (0)																					0 (0)
0 (0)																					5 (5)
0 (5)	20																				5 (5)
5 (0)																				60	5 (5)
5 (5)																					2.8 (2.8)
5 (5)																					0 (5)
5 (0)																					0 (0)
5 (5)	25																				0 (0)
5 (5)																				55	0 (0)
0 (0)																					4 (4)
5 (5)																					2.4 (2.4)
0 (0)																					2.4 (2.4)
0 (0)	30					35					40					45				50	5 (0)
	2.5 (4.5)	2.5 (4.5)	0 (0)	2.5 (2.5)	2.5 (2.5)	2.5 (2.5)	2.5 (2.5)	4.5 (4.5)	4.5 (4.5)	3.5 (3.5)	5 (5)	5 (5)	2.5 (1.5)	1.2 (1.2)	2.5 (2)	3.2 (3.2)	3 (1.8)	3 (1.5)	0 (0)	4 (0)	

IC501
(H8/3976)
HD6473977F

★ Audio IC Voltage Sheet

PB(REC)

0 (0)	1.97 (1.94)	2.0 (1.79)	5.64 (5.69)	0 (0)	5.68 (5.73)	4.63 (4.67)	5.68 (5.72)	0 (0)
			15					10
			IC401(BA7797)					
1				5				
0 (1.94)	0 (0)	5.73 (5.76)	5.73 (5.75)	11.98 (11.98)	11.84 (11.90)	0 (5.05)	5.72 (7.13)	4.46 (4.48)

4. Servo/Syscon & Audio & Tuner Circuit Diagrams

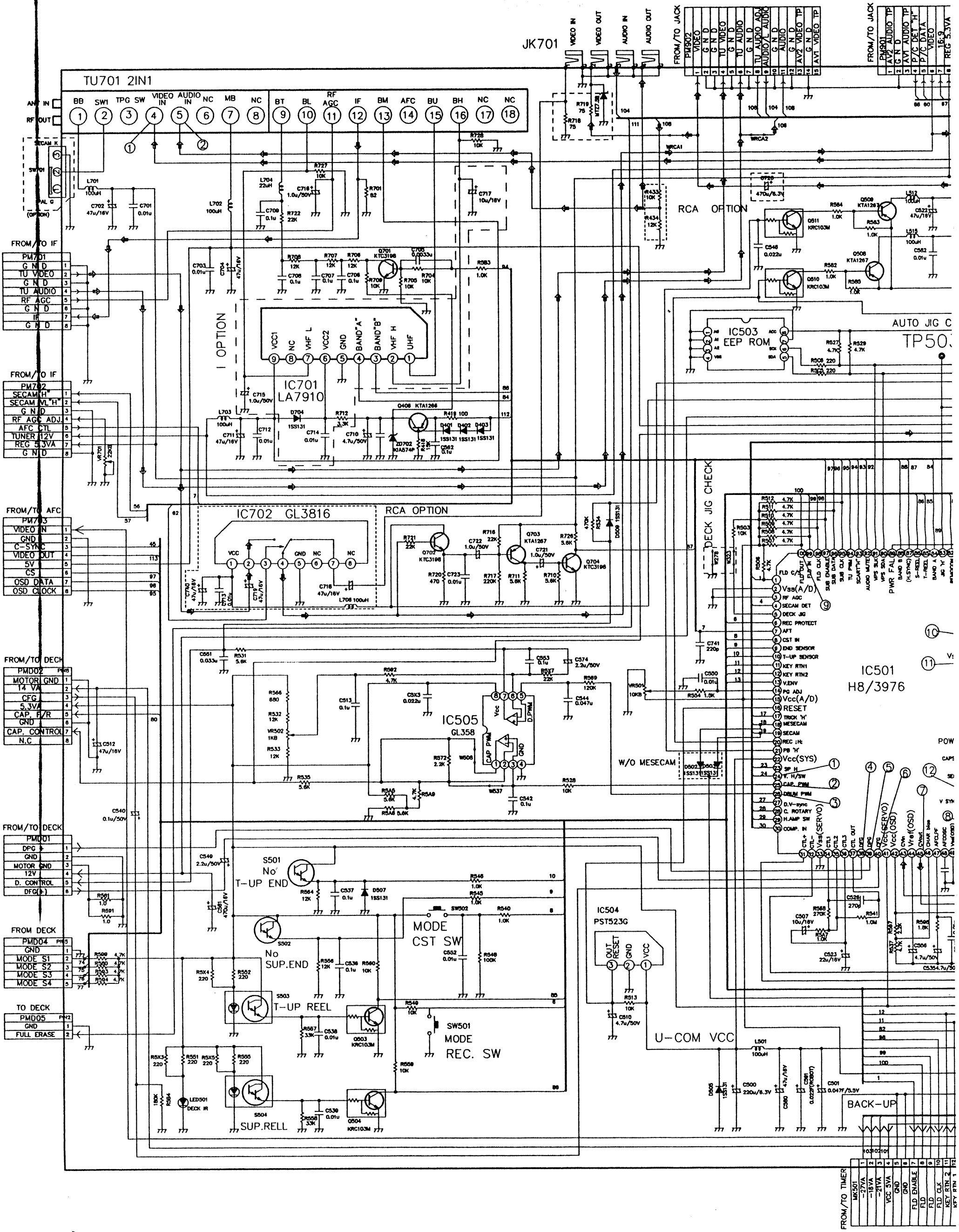
AUDIO OPTION TABLE

C/N	2SCART	1 SCART	RCA
R404	150	150	270
R420	33K	33K	OPEN
R424	10K	10K	18K
R425	3.3K	3.3K	1.8K
R428	10K	10K	18K
R429	3.3K	3.3K	3.3K
R433	10K	10K	SHORT
R434	12K	12K	OPEN
D404	OPEN	1SS131	1SS131
R426	OPEN	4.7K	4.7K
R427	47K	4.7K	4.7K
C421	OPEN	0.1/50	0.1/50
Q528	S/W KRC103M	OPEN	OPEN
R403	15K	15k	4.7k
R432	15K	15K	4.7K
R415	33K	33K	18K
C412	0.01u(CJ)	0.01(CJ)	0.022(CQ)
C413	0.018u(CQ)	0.018(CQ)	0.012(CQ)
C720	OPEN	TIN WIRE	470u/16V
W181	TIN WIRE	OPEN	OPEN
WRCA1	OPEN	OPEN	TIN WIRE
WRCA2	OPEN	OPEN	TIN WIRE
R411	1.5K	1.5K	680
R430	39K	39K	15K
R423	33K	33K	18K

95.09.22 7-753B

3-23 3-24 3-25

4. Servo/Syscon & Audio & Tuner Circuit Diagrams



AUDIO OPTION TABLE

C/N	2SCART	1 SCART	RCA
R404	150	150	270
R420	33K	33K	OPEN
R424	10K	10K	18K
R425	3.3K	3.3K	1.8K
R428	10K	10K	18K
R429	3.3K	3.3K	3.3K
R433	10K	10K	SHORT
R434	12K	12K	OPEN
D404	OPEN	1SS131	1SS131
R426	OPEN	4.7K	4.7K
R427	47K	4.7K	4.7K
C421	OPEN	0.1/50	0.1/50
Q528	SW KRC103M	OPEN	OPEN
R403	15K	15k	4.7k
R432	15K	15K	4.7K
R415	33K	33K	18K
C412	0.01u(CJ)	0.01(CJ)	0.022(CQ)
C413	0.018u(CQ)	0.018(CQ)	0.012(CQ)
C720	OPEN	TIN WIRE	470u/16V
W181	TIN WIRE	OPEN	OPEN
WRCA1	OPEN	OPEN	TIN WIRE
WRCA2	OPEN	OPEN	TIN WIRE
R411	1.5K	1.5K	680
R430	39K	39K	15K
R423	33K	33K	18K

W/O MESECAM

OPTION

REC BIAS TP

REC BIAS ADJ.

RCA OPTION

S왕 OPTION

AUTO JIG CHECK

TP503

IC401
BA7797

IC506
PST523D

IC502
GL7445

FROM/TO Y/C

FROM/TO DECK

FROM SMPS

OPTION:
RCA

W/O MESECAM

OSD

SERVO

A/D

-UP

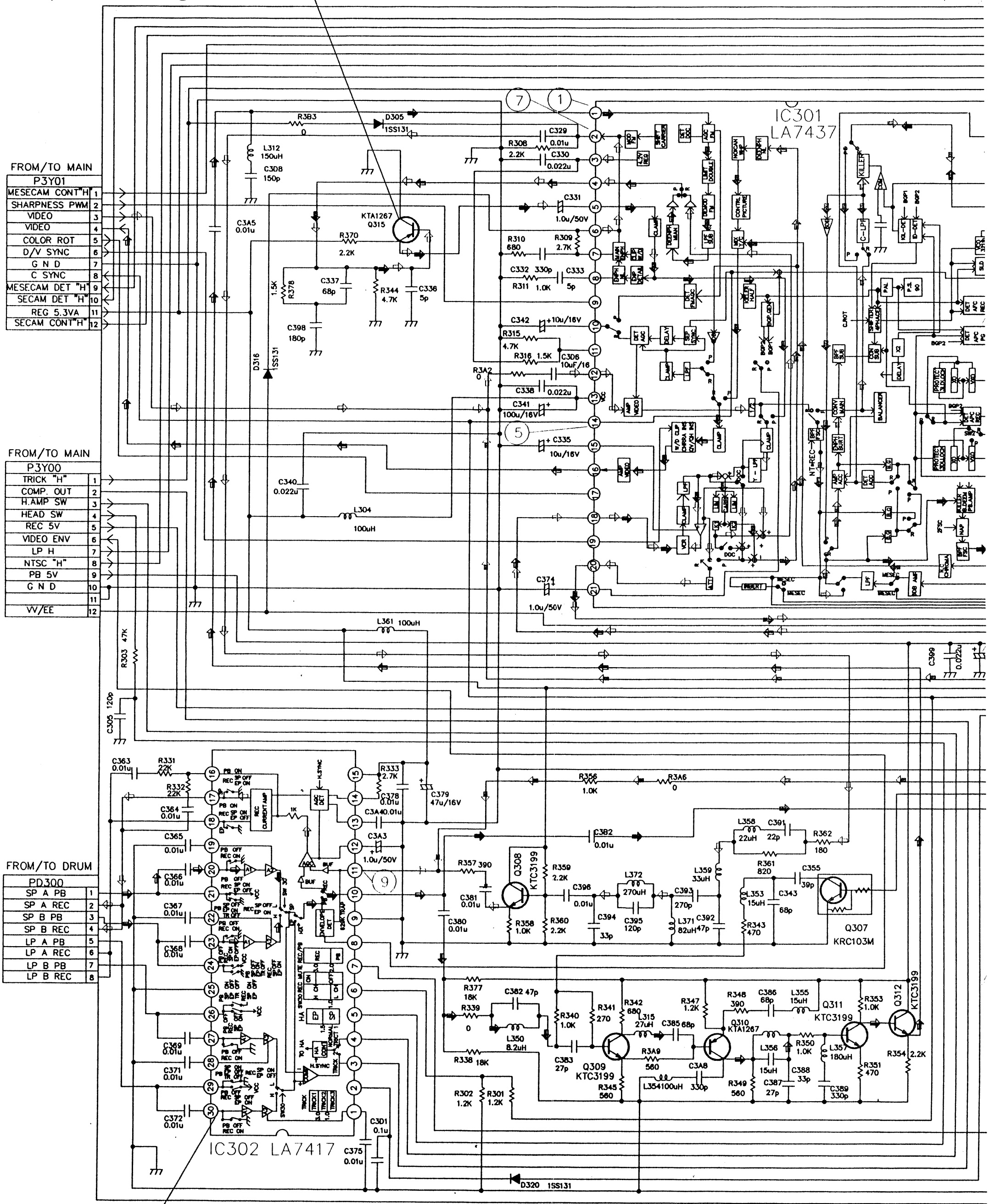
REC AUDIO SIGNAL
PB AUDIO SIGNAL
IF SIGNAL
VIDEO SIGNAL
○—WAVEFORM

95.09.22 7-753B

Q315 is defective.
Playback screen doesn't appear.

IC301 Pin30 i
PAL,MESECAM
Color signal i

5. Y/C Circuit Diagram



IC302 Pin7 is defective.
Playback recording mode is failed.

IC304 is
Drop ou
Color si

ctive.

detecty is failed.
ıble.

IC305 is defective.

MESECAM mode detecty is failed.

IC306 is defective.

SECAM mode detecty is failed.

OPTION: MESECAM

IC305 LA7356

IC306 LA7356

IC303 BA7207S

IC304 LC89970

OPTION: NTSC PB

OPTION : SECAM

'95.08.18 7-755D

tive.

ersation is failed.
esn't appear in the PB mode.

IC303 is defective.

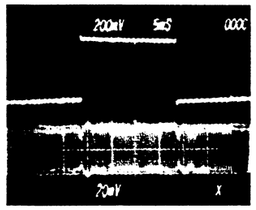
SECAM mode is failed.
Color signal doesn't appear in the PB and SECAM

LOCATION GUIDE

C301	P10	D309	K
C302	O10	D311	C
C303	L5	D315	J
C304	O9	D316	C
C305	B5	D320	K
C306	J10	IC301	C
C307	J10	IC302	C
C308	J10	IC303	N
C309	J10	IC304	K
C310	J9	IC305	M
C311	J9	IC306	C
C312	J9	L301	F
C313	J9	L302	J
C314	J9	L303	L
C315	J8	L304	D
C316	N7	L305	N
C317	L5	L306	C
C318	L4	L307	N
C319	K4	L309	J
C320	K4	L310	L
C321	J4	L311	L
C322	J4	L312	C
C323	J4	L315	F
C324	I2	L350	E
C325	M7	L353	G
C326	J2	L354	F
C327	J2	L355	H
C328	K2	L356	G
C329	F10	L357	H
C330	F10	L358	G
C331	F10	L359	G
C332	E9	L361	D
C333	F9	L370	L
C335	F8	L371	G
C336	D9	L372	F
C337	D9	P3Y00	A
C338	E8	P3Y01	A
C340	C7	PD300	A
C341	E8	Q303	L
C342	E9	Q307	H
C343	G4	Q308	E
C344	L3	Q309	F
C345	N2	Q310	G
C346	N2	Q311	H
C347	N2	Q312	H
C348	N3	Q313	P
C349	O3	Q315	D
C350	O3	R301	E
C351	L8	R302	E
C352	O6	R303	B
C353	O6	R305	J1
C354	N6	R306	J8
C355	H4	R308	E
C356	N6	R309	F
C357	N6	R310	E
C358	N6	R311	E
C359	M7	R314	O
C360	M6	R315	E
C361	M6	R316	E
C363	B5	R317	J8
C364	B5	R318	J7
C365	B4	R319	N
C366	B4	R320	J2
C367	B4	R321	J2
C368	B3	R322	M
C369	B3	R323	M
C370	M9	R324	O
C371	B2	R325	O
C372	B2	R329	N
C373	N10	R331	B
C374	E7	R332	B
C375	D2	R333	D
C376	N10	R334	L
C378	D5	R335	L
C379	E5	R336	L
C380	E4	R337	K
C381	E4	R338	E
C382	E3	R339	E
C383	F3	R340	F
C385	F3	R341	F
C386	G3	R342	F
C387	G2	R343	G
C388	H2	R344	D
C389	H2	R345	F
C391	G4	R347	G
C392	G4	R348	G
C393	G4	R349	G
C394	F4	R350	H
C395	F4	R351	H
C396	F4	R353	H
C398	C9	R354	I
C399	I6	R356	F
C3A2	M11	R357	E
C3A3	D4	R358	E
C3A4	D5	R359	F
C3A5	C9	R360	F
C3A6	M9	R361	G
C3A7	O11	R362	H
C3A8	G2	R367	M
C3A9	J2	R370	D
C3B1	O9	R377	E
C3B2	F4	R378	C
C3B7	O6	R379	P
C3D1	D2	R3A1	L
C3D2	L2	R3A2	E
C3D3	L2	R3A4	J
C3D5	I6	R3A5	K
C3D6	F8	R3A6	G
C3D8	C10	R3A7	N
C3D9	K3	R3A9	F
C3N1	K2	R3B3	C
D301	K9	R3P2	P
D302	O6	R3P3	N
D303	J7	VR301	M
D304	J7	VR302	M
D305	D10	VR303	N
D307	J9	X301	J

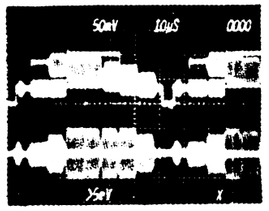
★ Y/C Oscilloscope Waveform

①



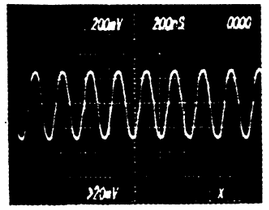
IC301 PIN ①
Playback RF (SP mode)
20mV/5msec

②



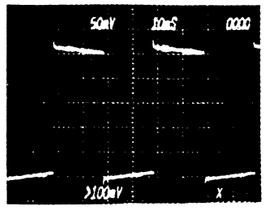
IC301 PIN ㉙
Playback Color
5mV/10µsec

③



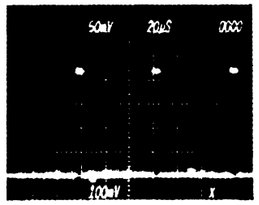
IC301 PIN ㉜
Record Mode:Fsc
Oscillation 20mV/200nsec

④



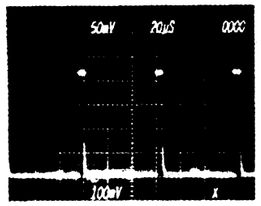
IC303 PIN ⑰
C/Rot 25
100mV/10msec

⑤



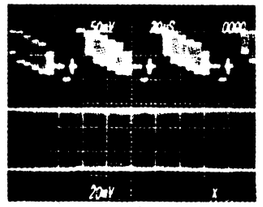
IC301 PIN⑭
C. SYNC
100mV/20µsec

⑥



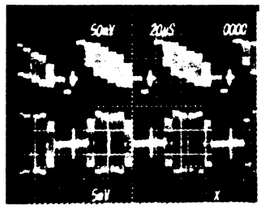
IC301 PIN ㉟
B.G.P Out terminal
100mV/20µsec

⑦



IC301 PIN ②
Record FM signal
20mV/20µsec

⑧



IC303 PIN ㊳
Record Color Signal
5mV/20µsec

⑨

IC302 PIN ⑪
PB Bell
Adjustment
100mV/20µsec

⑩

P3P02 PIN ⑱
PB Color Signal
200mV/5msec

★ IC Voltage Sheet

PB(REC)

0 (0)	1.8 (0.9)	2 (2)	1.9 (1.9)	3.1 (2.2)	2.8 (1.6)	2.8 (2)	4 (1.5)	4.9 (5)	2 (2)	2.8 (2.8)	3.8 (3.8)	1 (1)	2.5 (0)	1.8 (1.8)	0 (0)	2.4 (2.4)	0.6 (0.6)	2.4 (2.4)	2.4 (2.4)	0 (0)
		40					35					30					25			

IC301 (LA7437)

1				5					10					15					20
3.2 (2.3)	3.4 (3.2)	4.2 (4.2)	3 (2.4)	3.1 (3)	4.7 (2)	4.7 (2)	3.1 (2.8)	2.5 (2.5)	1.8 (1.8)	2.8 (2.8)	3.1 (3.1)	4.9 (4.9)	3.5 (3.5)	3 (4)	1.5 (1.5)	5 (5)	2.1 (2.1)	2.1 (0)	1.1 (1.1)	2 (2)

PB(REC)

0.7 (0)	0 (4.2)	2.0 (3.6)	0.7 (0)	0 (4.2)	0 (0)	0 (4.2)	0.7 (0)	2.0 (3.6)	0 (4.2)	0.7 (0)	2.0 (3.6)	0 (4.2)	0 (4.2)	2.5 (1.7)
30				25					20					

IC302 (LA7417)

1				5					10					15
2.0 (3.6)	0 (0)	4.5 (0)	0 (0)	5 (5)	1.5 (1.5)	0 (5)	2 (0)	0 (0)	2.3 (3.6)	0 (3.6)	0 (1.6)	2.5 (2.5)	5.0 (4.5)	5 (5)

MESECAM(PAL)

0	5	4 (2)	0	4
1				5

IC305 (LA7356)

10				6
4.5 (0)	5	0	5	2.5

OPTION : Mesecam

PB(REC)

0 (0)	1.4 (1.4)	0 (0)	5 (5)	8.4 (8.4)	5 (5)	0 (0)	5 (5)	1.9 (1.9)	1.9 (1.9)	0 (0)
		20				15				

IC304 (LC89970)

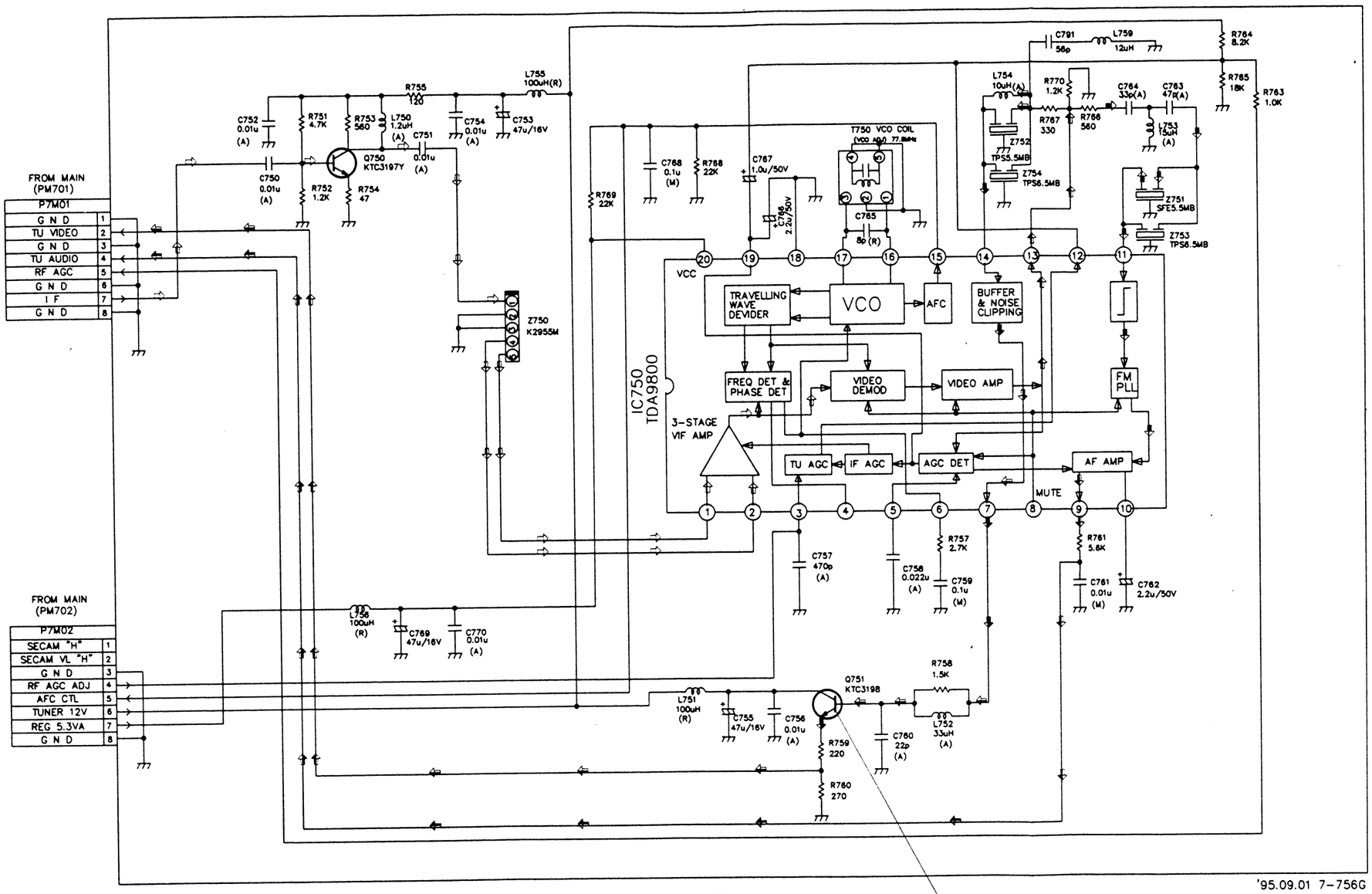
1				5					10	
0 (0)	2.3 (2.3)	5 (5)	2.3 (2.3)	0 (0)	2.3 (2.3)	0 (0)	1.3 (1.3)	0 (0)	2.3 (2.3)	1.2 (1.2)

★ TR Voltage Sheet

PB(REC)

Port / TR NO.	Emitter	Collector	Base
Q303	0.6(0)	1.8(0.4)	1.4(0)
Q307	0(0)	0(0)	0(0)
Q308	1.6(2)	4.5(0.5)	2.2(2.5)
Q309	1.8(0)	3(0.2)	2.5(0.2)
Q310	2.4(0 4)	1.3(0)	1.8(0)
Q311	0.6(0)	3.9(0.4)	1.3(0)
Q312	3(0)	5(0.4)	3.9(0.4)
Q315	3.4(3)	0(0)	3(2)

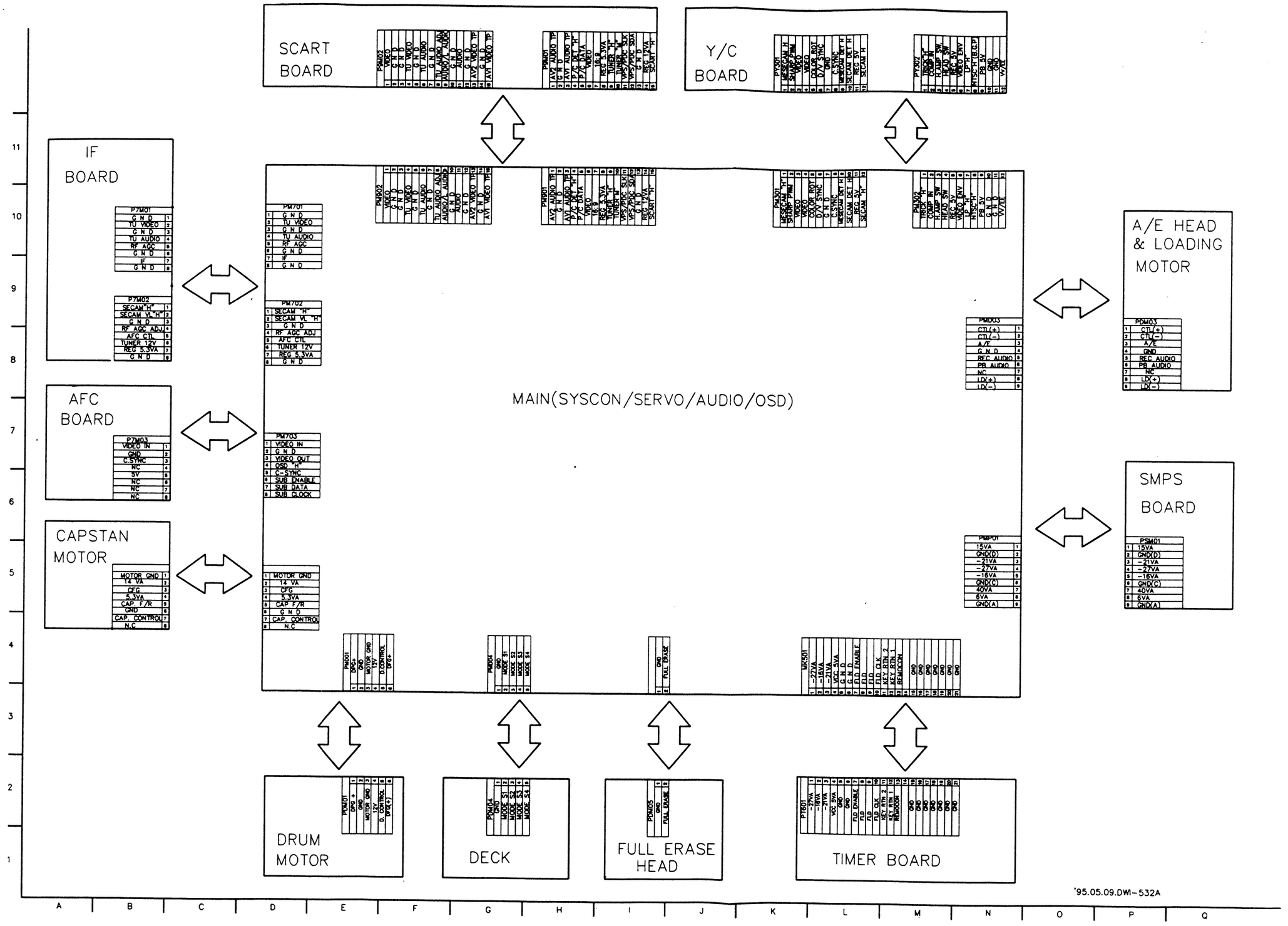
6. IF Circuit Diagram



LOCATION GUIDE

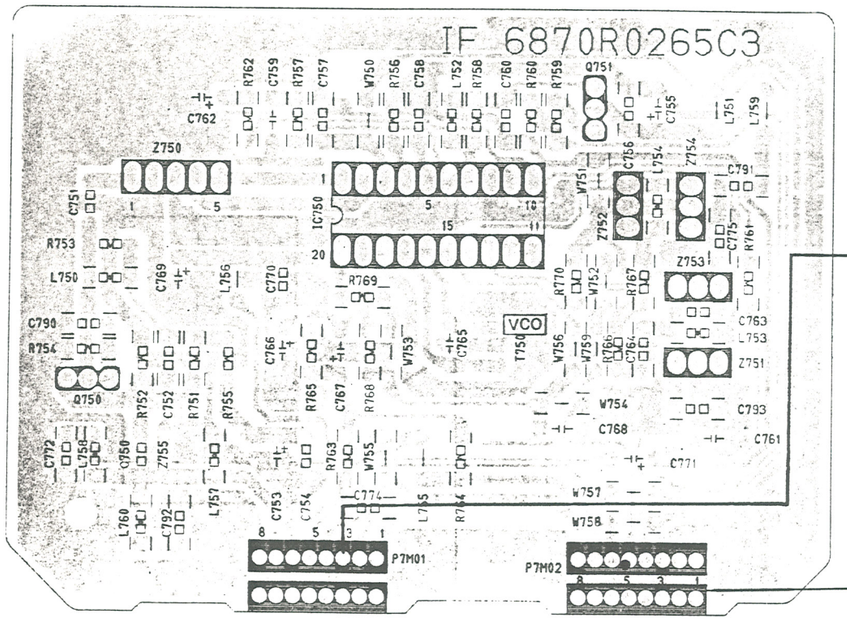
C750	C7
C751	D7
C752	C7
C753	E7
C754	E7
C755	G3
C756	G3
C757	G4
C758	H4
C759	H4
C760	H2
C761	I4
C762	J4
C763	J7
C764	J7
C765	H6
C766	G6
C767	G7
C768	F7
C769	D3
C770	E3
C791	I8
IC750	F5
L750	D7
L751	F3
L752	H3
L753	J7
L754	I7
L755	E7
L756	D3
L759	J8
Q750	D7
Q751	H3
R751	D7
R752	D7
R753	D7
R754	D7
R755	D7
R757	H4
R758	H3
R759	G2
R760	G2
R761	I4
R763	K7
R764	K8
R765	K7
R766	I7
R767	I7
R768	G7
R769	F7
R770	I7
T750	H7
Z750	E6
Z751	J6
Z752	I7
Z753	J6
Z754	I7

7. Connection Diagram



PRINTED CIRCUIT BOARD DIAGRAMS

1. IF P.C. Board



TO MAIN

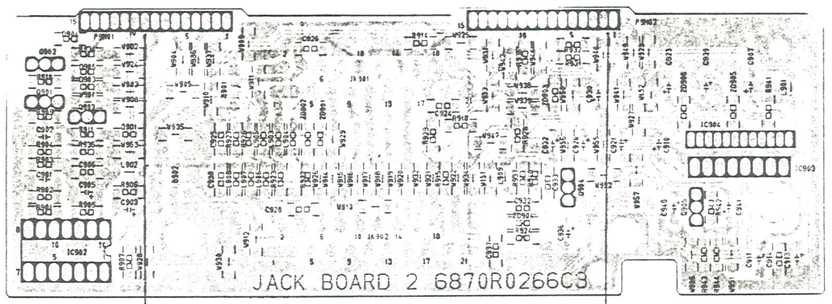
P7M01	
1	G N D
2	TU VIDEO
3	G N D
4	TU AUDIO
5	RF AGC
6	G N D
7	IF
8	G N D

TO MAIN

P7M02	
1	SECAM "H"
2	SECAM VL "H"
3	G N D
4	RF AGC ADJ
5	AFC CTL
6	TUNER 12V
7	REG 5.3VA
8	G N D

(Solder Side)

2. Jack P.C. Board



TO MAIN

P9M01	
1	AV2 AUDIO TP
2	G N D
3	AV1 AUDIO TP
4	P/C DET "H"
5	P/C DATA
6	VIDEO
7	16:9
8	REG 5.3 VA
9	TUNER "H"
10	TUNER "M"
11	VPS/PDC SLK
12	VPS/PDC SDA
13	G N D
14	REG 12VA
15	SCART "H"

TO MAIN

P9M02	
1	VIDEO
2	G N D
3	G N D
4	TU VIDEO
5	G N D
6	TU AUDIO
7	G N D
8	TU AUDIO ADJ
9	AUDIO/L AUDIO
10	G N D
11	AUDIO
12	G N D
13	AV2 VIDEO TP
14	G N D
15	AV1 VIDEO TP

(Solder Side)

★ IC Voltage Sheet

PB(REC)

0 0	1.5 (1.6)	2 (2)	2 (2)	3.2 (2.2)	3 (3)	3 (3)	3.8 (3.8)	5 (5)	2 (2)	2.5 (2.5)	3.6 (3.6)	1.2 (1.2)	2.5 (1.4)	2.5 (1.4)	0 (0)	2.5 (2.5)	0 (0)	2.5 (2.5)	2.5 (2.5)	0 (0)
		40					35					30					25			

IC301 (LA7437)

1					5					10					15					20
3.2 (2.2)	3.5 (2.6)	4 (4)	2.8 (2.8)	3.2 (3.2)	4.5 (2)	4.5 (2)	4.5 (2.6)	2.5 (2.4)	2 (1.4)	3.2 (3.2)	3.4 (2.8)	5 (5)	3.4 (3.4)	3 (3)	1.6 (1.6)	2.2 (2.2)	2 (2)	5 (0)	1.2 (1.2)	2.2 (2.2)

PB(REC)

0.7 (0)	0 (4.2)	2.0 (3.6)	0.7 (0)	0 (4.2)	0 (0)	0 (4.2)	0.7 (0)	2.0 (3.6)	0 (4.2)	0.7 (0)	2.0 (3.6)	0 (4.2)	0 (4.2)	2.5 (1.7)
30				25				20						

IC302 (LA7417)

1				5					10					15
2.0 (3.6)	0 (0)	4.5 (0)	0 (0)	5 (5)	1.5 (1.5)	0 (5)	2 (0)	0 (0)	2.3 (3.6)	0 (3.6)	0 (1.6)	2.5 (2.5)	5.0 (4.5)	5 (5)

MESECAM(PAL)

0	5	4 (2)	0	4
1				5

IC305 (LA7356)

10				6
4.5 (0)	5	0	5	2.5

OPTION : Mesecam

PB(REC)

0 (0)	1.4 (1.4)	0 (0)	5 (5)	8.4 (8.4)	5 (5)	0 (0)	5 (5)	1.9 (1.9)	1.9 (1.9)	0 (0)
		20				15				

IC304 (LC89970)

1				5					10
0 (0)	2.3 (2.3)	5 (5)	2.3 (2.3)	0 (0)	2.3 (2.3)	0 (0)	1.3 (1.3)	0 (0)	2.3 (2.3)	1.2 (1.2)

PB(REC)

0 (0)	2 (2)	2.2 (2.2)	6.2 (6)	0.2 (0)	6.2 (6.2)	5.3 (0)	6.2 (6.2)	0.2 (0)
			15					10

IC401 (BA7797)

1				5				
2 (2)	0	6 (6)	6.2 (6)	12 (12)	12 (12)	0.4 (5.2)	6.2 (6.2)	5.5 (5.5)

PB(REC)

5 (5)	5 (5)	5 (5)	0 (0)	5 (5)	5 (5)	5 (5)	4.2 (4.2)	0 (5)	5 (5)	5 (5)	5 (5)	0 (0)	5 (5)	5 (5)	5 (5)	4.8 (4.8)	5 (5)	5 (5)	0 (0)
5 (5)	100 1																		0 (0)
0 (0)																			5 (5)
4 (4)																			5 (5)
0 (0)																			5 (5)
5 (5)	5																		0 (0)
0 (5)																			5 (5)
4.5 (4.5)																			5 (5)
0 (0)																			4 (4)
0 (0)																			3 (3)
0.1 (0)	10																		0 (0)
5 (5)																			0.8 (0.8)
5 (5)																			2.5 (2.5)
1.5 (0)																			0 (0)
2.5 (2.5)																			0 (0)
5 (5)	15																		0 (0)
5 (5)																			5 (5)
0 (0)																			5 (5)
0 (0)																			0 (0)
0 (0)																			0 (0)
0 (0)																			5 (5)
0 (0)	20																		5 (5)
5 (0)																			5 (5)
5 (5)																			2.8 (2.8)
5 (5)																			0 (5)
5 (0)																			0 (0)
5 (5)	25																		0 (0)
5 (5)																			0 (0)
0 (0)																			4 (4)
5 (5)																			2.4 (2.4)
0 (0)																			2.4 (2.4)
0 (0)	30				35				40				45					50	5 (0)
	2.5 (4.5)	2.5 (4.5)	0 (0)	2.5 (2.5)	2.5 (2.5)	2.5 (2.5)	2.5 (2.5)	4.5 (4.5)	4.5 (4.5)	3.5 (3.5)	5 (5)	5 (5)	2.5 (1.5)	1.2 (1.2)	2.5 (2)	3.2 (3.2)	3 (1.8)	3 (1.5)	0 (0)	4 (0)

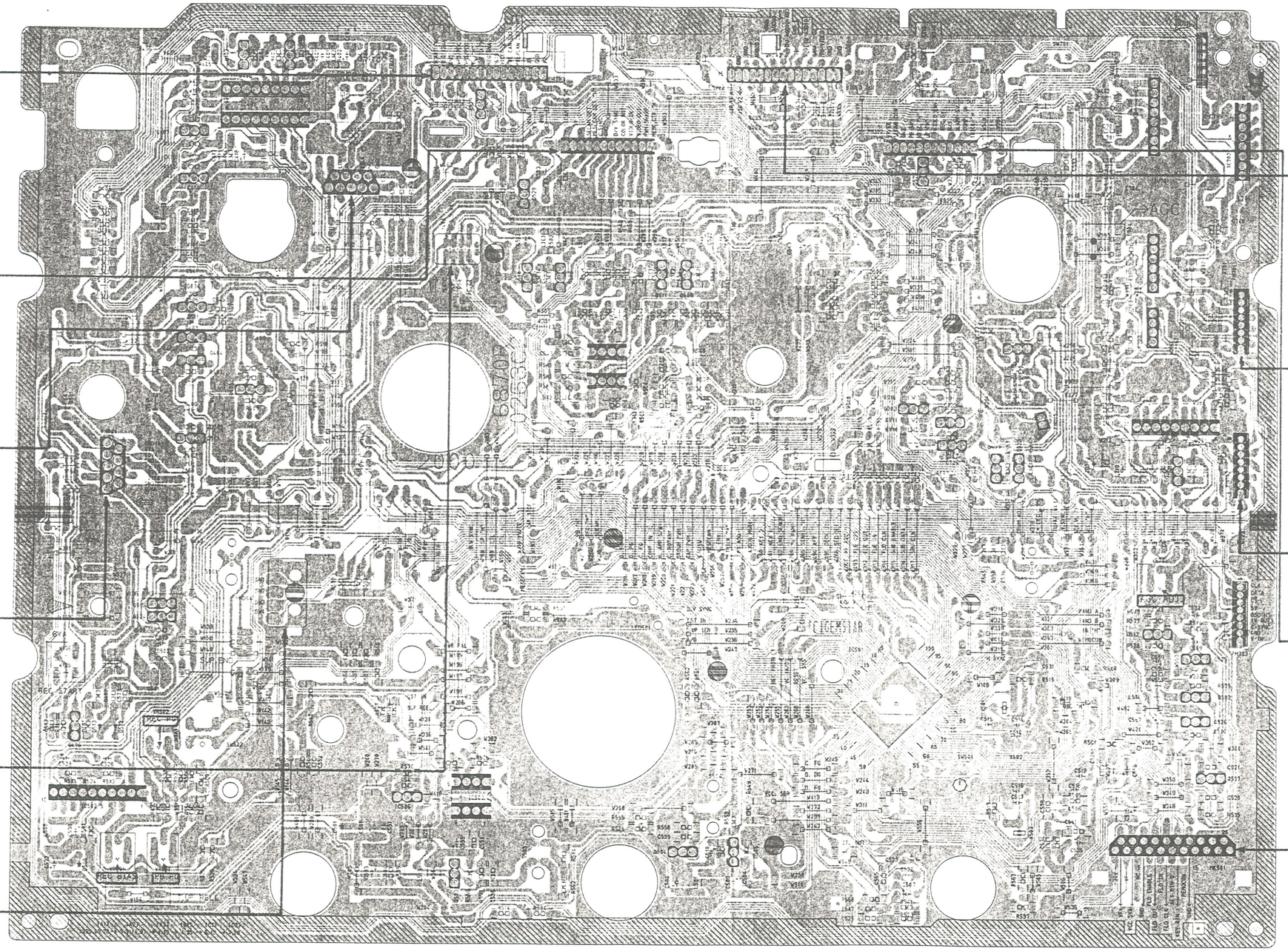
IC501
(H8/3976)
HD6473977F

★ TR Voltage Sheet

PB(REC)

Port / TR NO.	Emitter	Collector	Base
Q303	0.6(0)	1.8(0.4)	1.4(0)
Q307	0(0)	0(0)	0(0)
Q308	1.6(2)	4.5(0.5)	2.2(2.5)
Q309	1.8(0)	3(0.2)	2.5(0.2)
Q310	2.4(0.4)	1.3(0)	1.8(0)
Q311	0.6(0)	3.9(0.4)	1.3(0)
Q312	3(0)	5(0.4)	3.9(0.4)
Q315	3.4(3)	0(0)	3(2)

3. MAIN P.C.Board



TO Scart

PM901	
AV2 AUDIO TP	1
GND	2
AV1 AUDIO TP	3
P/C DET "H"	4
P/C DATA	5
VIDEO	6
16:9	7
REG 5.3 VA	8
TUNER "H"	9
TUNER "M"	10
VPS/PDC SLK	11
VPS/PDC SDA	12
GND	13
REG 12VA	14
SCART "H"	15

TO Pre-Amp

PM301	
MESECAM "H"	1
SHARP PWM	2
VIDEO	3
VIDEO	4
COLOR ROT	5
D/V SYNC	6
G N D	7
C SYNC	8
MESECAM DET H	9
SECAM DET H	10
REG 5V	11
SECAM "H"	12

TO DECK

PMD03	
CTL (+)	1
CTL (-)	2
A E	3
G N D	4
REC AUDIO	5
PB AUDIO	6
NC	7
LD (+)	8
LD (-)	9

TO SMPS

PMD01	
14VA	1
GND(M)	2
- 23VA	3
- 31VA	4
- 19VA	5
12VA	6
38VA	7
6VA	8
GND(A)	9

TO DECK

PMD02	
MOTOR GND	1
14 VA	2
CFG	3
5.3 VA	4
CAP F/R	5
GND	6
CAP CONTROL	7
N C	8

TO DECK

PMD04	
GND	1
MODE S1	2
MODE S2	3
MODE S3	4
MODE S4	5

TO Scart

PM902	
1	VIDEO
2	G N D
3	G N D
4	TU VIDEO
5	G N D
6	TU AUDIO
7	G N D
8	TU AUDIO ADJ
9	AUDIO/L AUDIO
10	G N D
11	AUDIO
12	G N D
13	AV2 VIDEO TP
14	G N D
15	AV1 VIDEO TP

TO IF

PM701	
1	G N D
2	TU VIDEO
3	G N D
4	TU AUDIO
5	RF AGC
6	G N D
7	IF
8	G N D

TO IF

PM702	
1	SECAM "H"
2	SECAM VL "H"
3	G N D
4	RF AGC ADJ
5	AFC CTL
6	TUNER 12V
7	REG 5.3 VA
8	G N D

TO Pre-Amp

PM302	
1	TRICK "H"
2	COMP IN
3	H AMP SW
4	HEAD SW
5	REC 5V
6	VIDEO ENV
7	LP "H"
8	NTSC "H"
9	PB 5V
10	G N D
11	G N D
12	VV/EE

TO Timer

MK501	
1	- 31VA
2	- 19VA
3	- 23VA
4	VCC 5VA
5	G N D
6	G N D
7	FLD ENABLE
8	FLD
9	FLD
10	FLD CLK
11	KEY RTN 2
12	KEY RTN 1
13	REMOCON
14	G N D

LOCA.NO	Position
IC401	4B
IC501	2E
IC502	1B
IC503	1C
IC504	1D
IC505	3D
IC506	1C
IC701	3F
Q401	4B
Q402	4B
Q403	3B
Q404	3B
Q405	3B
Q406	2B
Q407	4B
Q502	2E
Q503	1C
Q504	1D
Q506	3B
Q507	1E

LOCA.NO	Position
Q508	3C
Q509	3D
Q510	3C
Q511	3D
Q512	2F
Q513	3B
Q514	3E
Q515	2B
Q522	3E
Q523	3E
Q524	2B
Q525	2E
Q526	2E
Q527	4E
Q528	4C
Q701	3F
Q702	3E
Q703	3E
Q704	3E

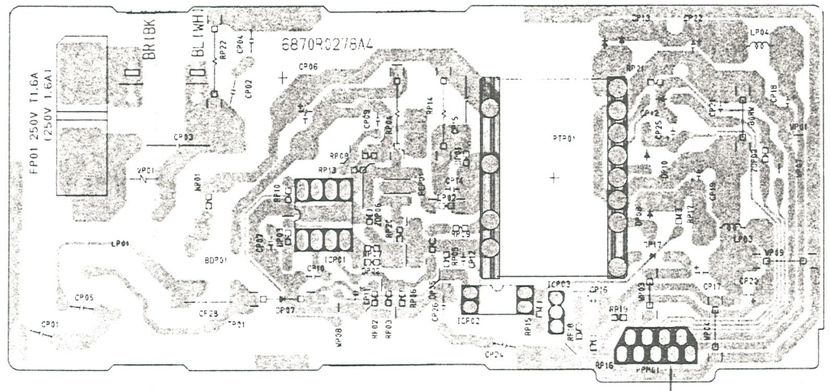
ABBREVIATIONS

ADJ. (Adjustment)
AGC. (Automatic Gain Control)
CAR. (Carrier)
DEV. (Deviation)
EE. (Electronic to Electronic)
PB. (Play back)
PG. (Pluse Generator)
REC. BIAS (Record Bias)
VIF. (Video Intermediate Frequency)
REC. OSC. (Record Oscillation)

NOTE) ● : Measurement Point
□ Adjustment Point
Emitter : TRANSISTOR
Collector
Base

A B C D E F G H

4. Power (SMPS) P.C.Board

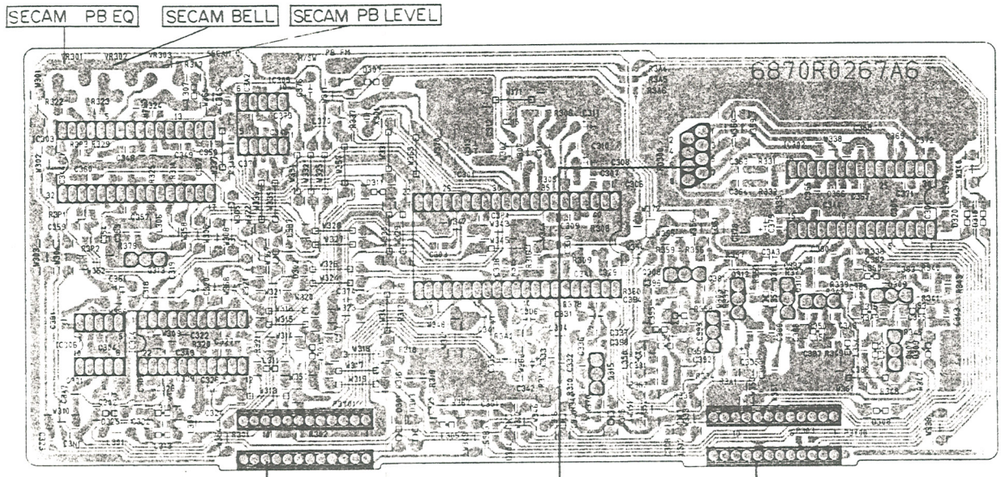


(Solder Side)

TO MAIN

PPM01	
1	15VA
2	GND(D)
3	-21VA(N.C)
4	-27VA(N.C)
5	-16VA(N.C)
6	GND(C)
7	40VA
8	6VA
9	GND(A)

5. Y/C & Pre-Amp P.C.Board



(Solder Side)

TO MAIN

P3Y01	
MESECAM CONT"H"	1
SHARPNESS PWM	2
VIDEO	3
VIDEO	4
COLOR ROT	5
D/V SYNC	6
G N D	7
C SYNC	8
MESECAM DET "H"	9
SECAM DET "H"	10
REG 5.3VA	11
SECAM CONT"H"	12

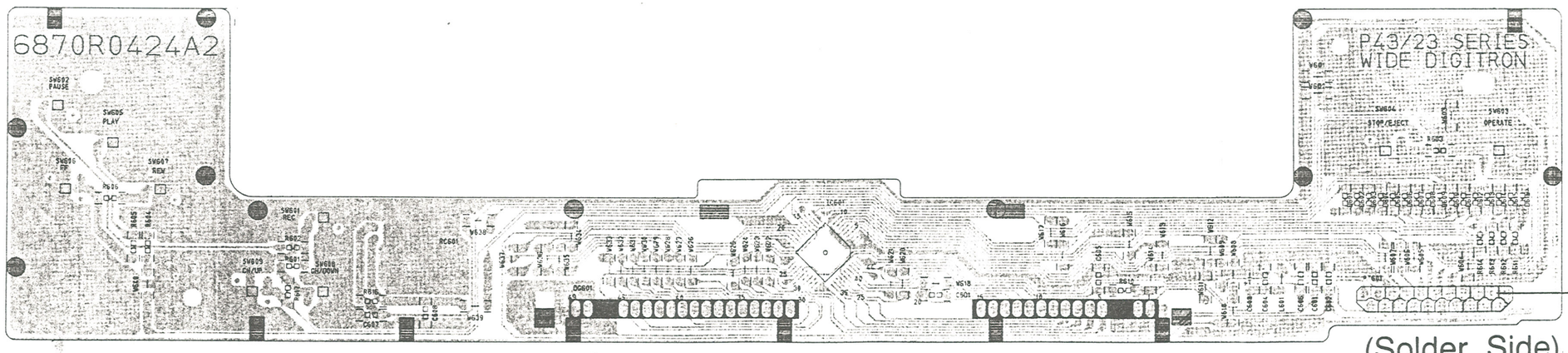
TO DECK

PD300	
SP A PB	1
SP A REC	2
SP B PB	3
SP B REC	4
LP A PB	5
LP A REC	6
LP B PB	7
LP B REC	8

TO MAIN

P3Y00	
TRICK "H"	1
COMP. OUT	2
H. AMP SW	3
HEAD SW	4
REC 5V	5
VIDEO ENV	6
LP H	7
NTSC "H"	8
PB 5V	9
G N D	10
	11
VV/EE	12

6. Timer P.C.Board



(Solder Side)

TO MAIN

PT601	
- 31VA	1
- 19VA	2
- 23VA	3
VCC 5VA	4
GND	5
GND	6
FLD ENABLE	7
FLD	8
FLD	9
FLD CLK	10
KEY RTN 2	11
KEY RTN 1	12
REMOCON	13
GND	14

CONTENTS

FRONT LOADING MECHANISM DISASSEMBLY

- **Front Loading Mechanism Assembly Parts Location** 4-1
1. Front Loading Mechanism Assembly 4-2
2. Guide Cassette....4-2
3. Bracket Assembly Side(R)/Top Plate....4-2
4. Holder Assembly Cassette 4-2
5. Arm Assembly F/L 4-3
6. Spring Stopper/Spring Release 4-3
7. Holder Assembly Prism 4-3

DECK MECHANISM DISASSEMBLY

- **Deck mechanism Parts Location** 4-4
1. Auto Head Cleaner Assembly 4-5
2. Drum and Base Assembly 4-5
3. Drum Assembly
   3-1. Drum and Motor Sub Assembly 4-5
   3-2. Upper and Lower Drum Assembly ...4-6
4. A/C (Audio/Control) Head Assembly 4-6
5. FE (Full Erase) Head Assembly 4-6
6. Plate Up/Supply Main Brake/Take up Main Brake/Take up Soft Brake/Body prism Led Assembly 4-7
7. Tension Arm/Lever Assembly Tension....4-7
8. TAB Lever....4-7
9. Supply Reel/Take up Reel Assembly....4-8
10. Gear Pulley/Belt Capstan 4-8
11. Gear H1, H2/Lever H1....4-8
12. Arm Assembly Idler 4-8
13. Mode S/W....4-9
14. Bracket Capstan/Capstan Motor Assembly....4-9
15. Capstan Brake/Cam Bracket Assembly ..4-9
16. Cam Bracket/Lever Jog/Gear Jog 4-9
17. Gear Cam L/D 4-10
18. Gear P/S Plate Slider 4-10
19. Gear Assembly P2/P3 4-10
20. Base Assembly P2/P3....4-10
21. Guide Roller Assembly 4-11
22. Clutch Assembly S27....4-11
23. Clutch Assembly T27....4-11
24. Lever Assembly F/R & Arm F/R....4-11
25. Base Tension....4-12
26. Holder Pinch Assembly 4-12
27. Pinch Arm Assembly 4-12
28. L/D Motor Bracket Assembly 4-12
29. Worm Wheel....4-13
30. L/D Motor Assembly & Worm L/D Motor & L/D Motor Bracket 4-13
31. Gear CNT 4-13
32. Gear Pinch....4-13
33. T/Up Arm Assembly....4-14
34. Gear Pinch Cam 4-14

MECHANISM ADJUSTMENT

- **Tools and Fixtures for Deck** 4-15
1. Mechanism and Mode Switch Alignment Check 4-16
2. Preparation for adjustment (To set VCR(VCP) to the Loading State without inserting a cassette)....4-17
3. Tension post position and Tension Adjustment....4-17
4. Checking Torque....4-18
5. Guide Roller Height Adjustment 4-19
6. Audio/Control (A/C) Head Adjustment...4-20
7. X-Value Adjustment 4-21
8. Adjustment after Replacing Drum Assembly (Video Heads) 4-22
9. Check The Tape Travel after Reassembling Deck Assembly....4-22
   9-1. Check Audio and RF Locking Time during Playback after CUE or REV 4-22
   9-2. Check the condition between the Audio and Video Sync. (Lip Sync)....4-23
   9-3. Check for tape curling or jamming 4-23
10. Maintenance/Inspection Procedure....4-24

MECHANISM TROUBLESHOOTING GUIDE

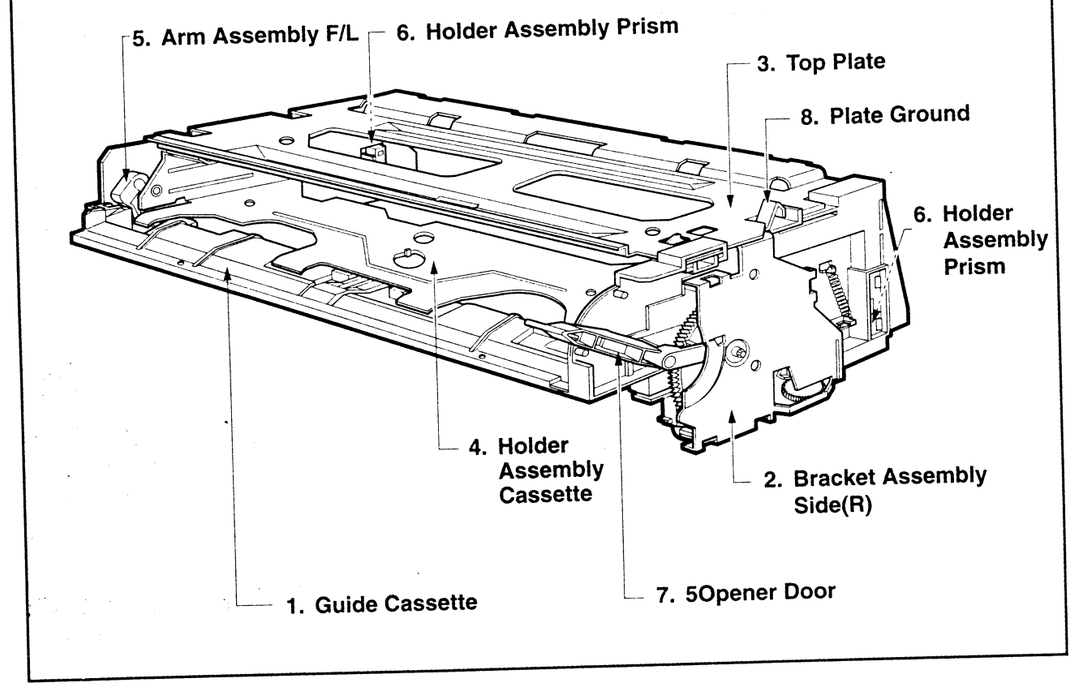
1. Deck Mechanism 4-27
2. Front Loading Mechanism 4-31

EXPLODED VIEWS

1. Moving Mechanism Section (1) 4-34
2. Moving mechanism Section (2) 4-36
3. Front Loading Mechanism Section 4-38

FRONT LOADING MECHANISM DISASSEMBLY

● Front Loading Mechanism Assembly, Parts Location



※ **Component list below will be discribed as if the top and bottom covers, front panel and deck mechanism assembly have already been removed.**

1. **Guide Cassette**
2. **Bracket Assembly Side (R)**
3. **Top Plate**
4. **Holder Assembly Cassette**
5. **Arm Assembly F/L**
6. **Holder Assembly Prism**
7. **Opener Door**
8. **Plate Ground**

FRONT LOADING MECHANISM DISASSEMBLY

1. Front Loading Mechanism Assembly (Fig. A-1)

1) Remove the Top and Bottom Covers and Front Panel.
2) Remove two screws(A).
3) Lift up the Front Loading Mechanism Assembly in the direction of arrow(B).

NOTE

When disassembling and reassembling:
Ⓘ Give special attention to removal and to reassembly because two tabs(L), (R) are engaged.

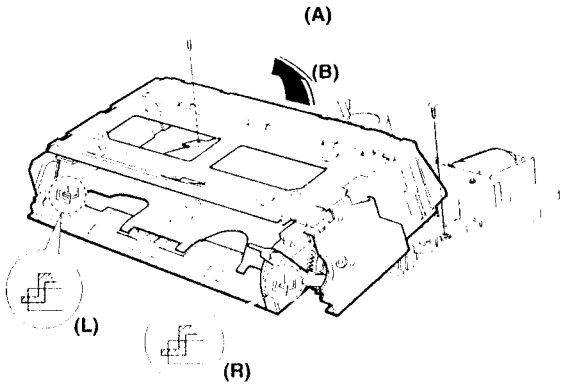


Fig. A-1 Front Loading Mechanism

2. Guide Cassette (Fig. A-2)

1) Push tab(R) of the Cassette Guide and disengage with Bracket Side(R) and push tab(L) of the cassette Guide which is engaged with Top Plate and remove it in the direction of arrow (B).

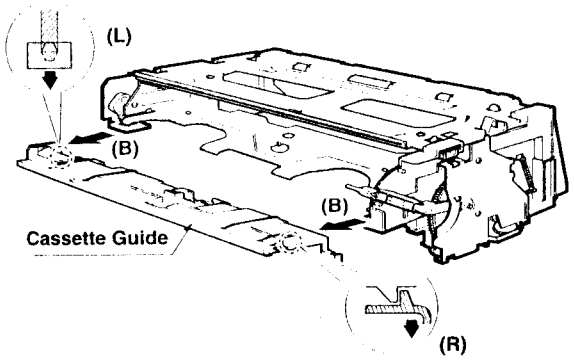


Fig. A-2 Guide Cassette

3. Bracket Assembly Side (R)/ Top Plate (Fig. A-3)

1) Push the tabs(L), (R) of Bracket Assembly Side(R) to disengage with the Top Plate and remove it in the direction of arrow(A).
2) The Top Plate can be removed by separating the Guide Cassette and the Bracket Assembly Side(R).

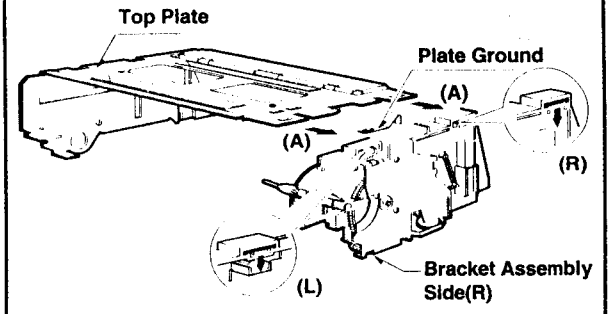


Fig. A-3 Bracket Assembly Side(R)/ Top Plate

4. Holder Assembly Cassette (Fig. A-4)

1) Separate the Bracket Assembly Side(R).
2) Push the two lever tabs(L), (R) down and separate the Holder Assembly Cassette and the Arm Assembly F/L from the Top Plate.

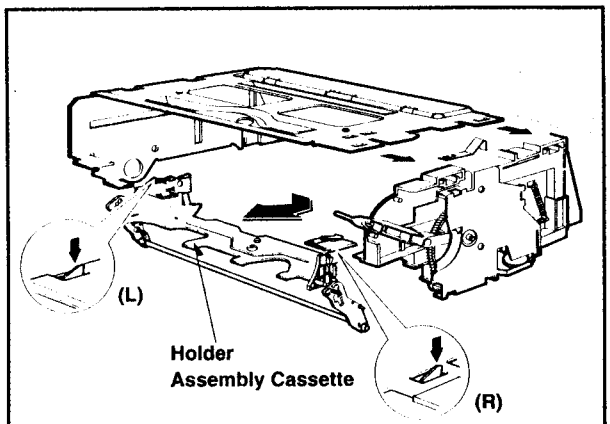


Fig. A-4 Holder Assembly cassette

FRONT LOADING MECHANISM DISASSEMBLY

5. Arm Assembly F/L (Fig. A-5)

1) Remove by pulling the Arm F/L(R) from the Bracket Holder(R) Boss in the direction of arrow(A).
2) Separate the Arm Assembly F/L from Cassette Holder Boss in the direction of arrow(B).

NOTE

When disassembling and reassembling:
Ⓘ Be sure to remove the Arm F/L(R) first. If not the Arm Assembly F/L can be damaged.

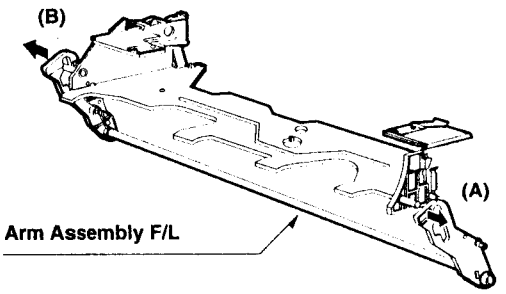


Fig. A-5 Arm Assembly F/L

6. Spring Stopper/Spring Release (Fig. A-6)

1) Remove the Spring Release which is connected to the tabs(L), (R) of the Arm Release and Opener Lid.
2) Remove the Spring Stopper which is connected to the tabs(A), (B) of the Lever Stopper(R) and the Bracket Holder(R).

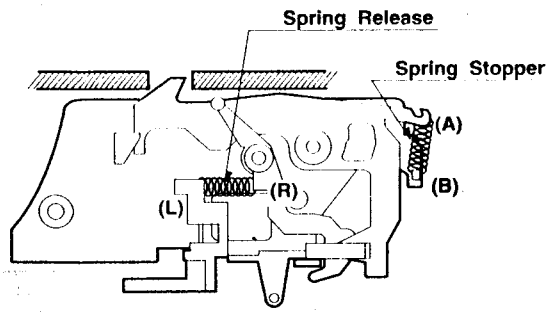


Fig. A-6 Spring Stopper/Spring Release

7. Holder Assembly Prism (Fig. A-7)

1) Separate the Holder Assembly Prism form the Top Plate by Pressing the tabs(L & R).
2) Remove by pushing two tabs(L), (R) is aligned with the Bracket Assembly side(R) in the direction of arrow.

NOTE

When disassembling and reassembling:
Ⓘ Remove the Holder Assembly Prism with the required tools ((-) Type Drive).

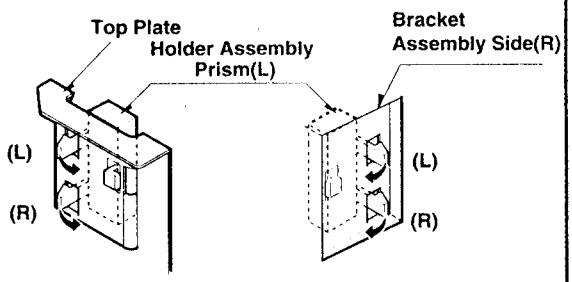
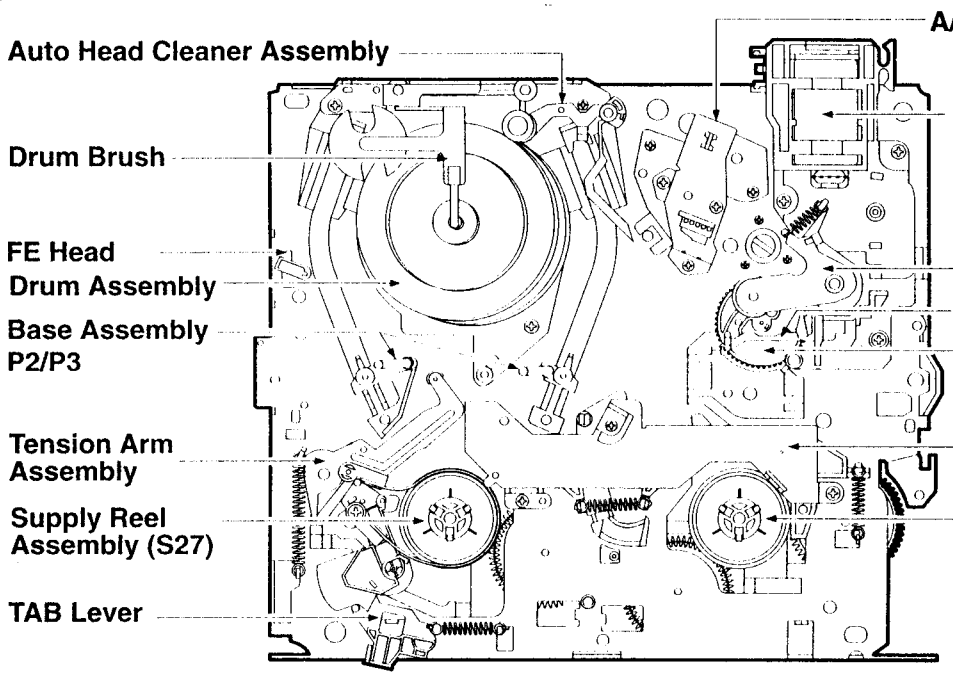


Fig. A-7 Holder Assembly Prism

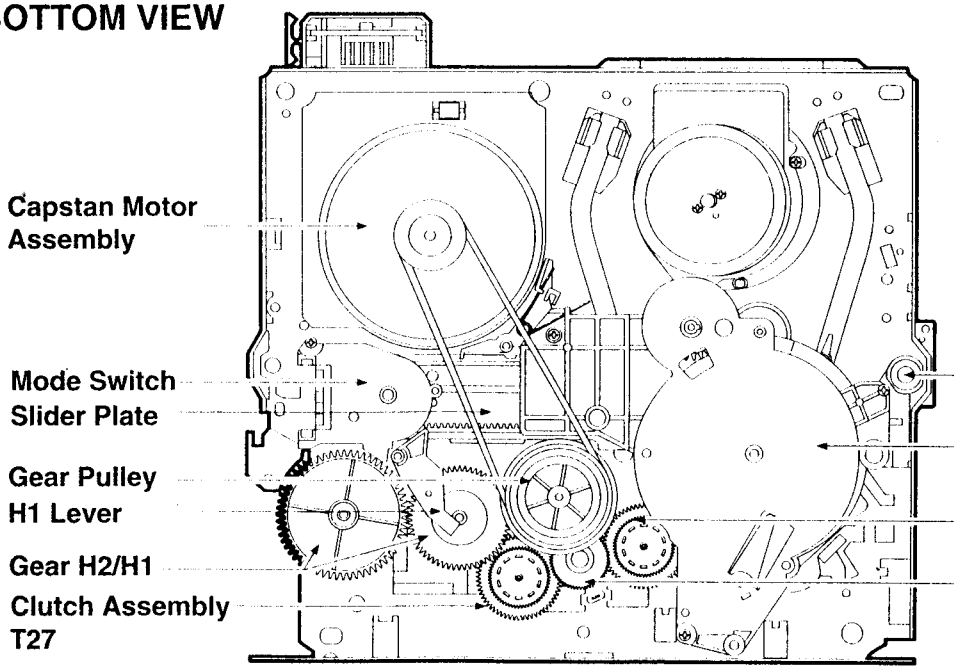
DECK MECHANISM DISASSEMBLY

● Deck Mechanism Parts Location

TOP VIEW



BOTTOM VIEW



DECK MECHANISM DISASSEMBLY

1. Auto Head Cleaner Assembly (Fig. B-1)

(Optional Item)

1) Push the tab(A) of Auto Head Cleaner and remove the Cleaner Arm Assembly.

NOTES:

When disassembling and reassembling:

ⓘ Do not allow fingers or tools to touch the outside of the Drum.

② Be careful not to get any foreign substance on the Roller.

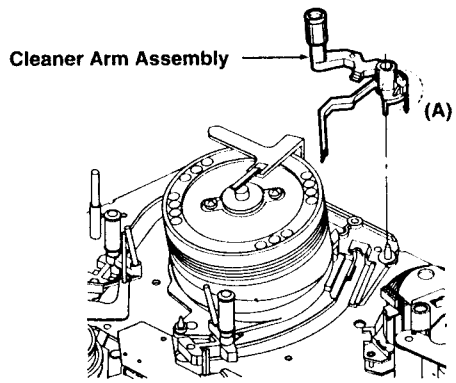


Fig. B-1 Auto head cleaner Assembly

2. Drum and Base Assembly (Fig. B-2)

1) Remove the Auto Head Cleaner Assembly. (option)
2) Remove three screws(A) and separate the Drum Assembly, Drum Base and the Drum Brush from the Deck Mechanism Assembly.
3) Remove three screws(B) on the back side and remove the Drum Assembly from the Drum Base.

NOTES:

When disassembling and reassembling:

ⓘ Do not touch the video tips with fingers or tools. Give special attention to disassembling and reassembling of Auto Head Cleaner Assembly.

② After assembling, adjust the tape transport system and Servo PG.

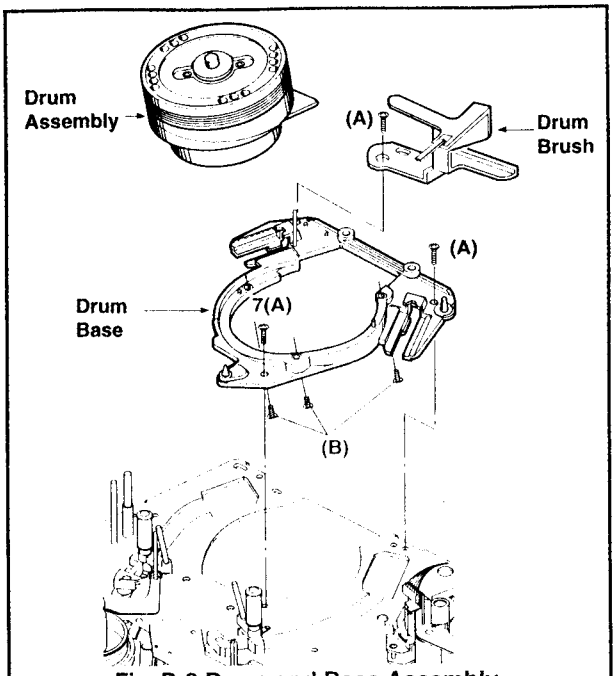


Fig. B-2 Drum and Base Assembly

3. Drum Assembly

3-1. Drum and Motor Sub Assembly (Fig. B-3-1)

1) Remove the Drum Base from the Deck Mechanism Assembly.
2) Separate the Drum Assembly from the Drum Base.
3) Remove two screws(A) and then remove the rotor.
4) Remove three screws(B) and then remove the stator.

NOTE

When disassembling and reassembling:

ⓘ Do not touch the video tips with fingers or tools.

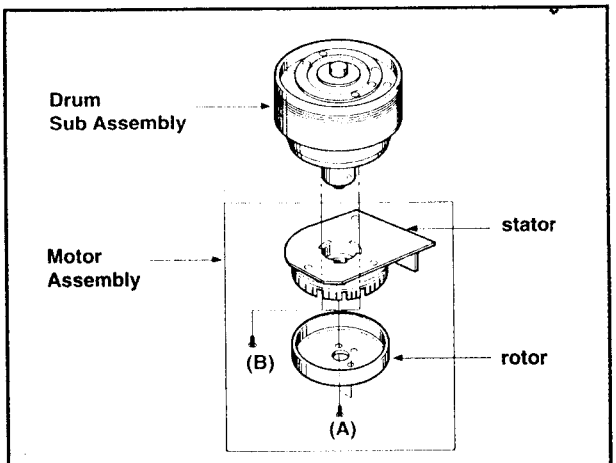


Fig. B-3-1 Drum and Motor Sub Assembly

DECK MECHANISM DISASSEMBLY

3-2. Upper and Lower Drum Assembly (Fig. B-3-2)

1) Remove the Drum Assembly and Drum Base from the Deck Mechanism Assembly.
2) Separate the Drum Assembly from the Drum Base.
3) Remove two screws(A).
4) Separate the Upper Drum Assembly from the Lower Drum Assembly.

NOTES:

When disassembling and reassembling:
① Do not touch the video head tips with fingers or tools.
② Make sure that the color (white) marked on the P.C.B of the Upper Drum coincides with the color (Green) marked on the Flange Assembly.

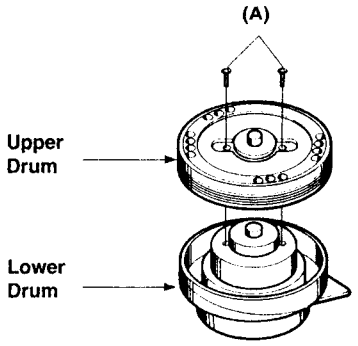


Fig. B-3-2 Upper/Lower Drum Assembly

4. A/C (Audio/Control) Head Assembly (Fig. B-4)

1) Unplug the A/C connector from the Loading Motor P.C.B.
2) Remove two screws(A) and remove the A/C Head Assembly from the Deck Mechanism Assembly.

NOTES:

When disassembling and reassembling:
① When assembling, the 3mm hole of the Base A/C should coincide to 3mm hole in the Chassis.
② Do not touch the A/C Head Tips with fingers or tools.
③ After reinstalling the Audio Control Head Assembly, adjust the Tilt, Azimuth and Height of A/C Head.

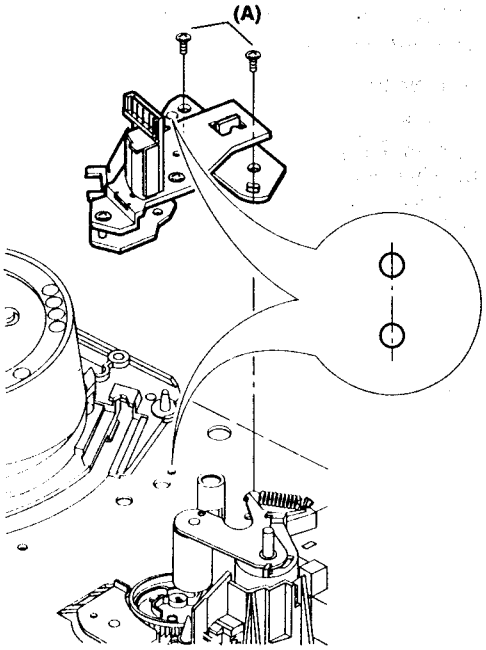


Fig. B-4 A/C Head Assembly

5. FE (Full Erase) Head Assembly (Fig. B-5) (Optional Item)

1) Push two tabs(A) and remove the FE Head.

NOTE

When disassembling and reassembling:
① Be careful not to get any foreign substance on the FE Head.

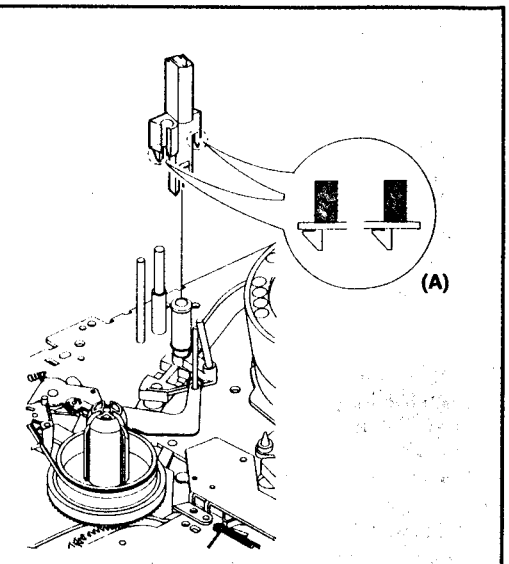


Fig. B-5 FE Head Assembly

6. Plate Up/Supply Main Brake/Take up Main Brake/Take up Soft Brake/Body Prism Led Assembly (Fig. B-6)

1) Plate Up
   ① Remove three screws(A) and remove the Plate Up.
2) Supply Main Brake
   ① Remove the Spring MB.
   ② Lift up the Supply Main Brake.
3) Take-Up Main Brake
   ① Lift up the Take-Up Main Brake.
4) Take-Up Soft Brake
   ① Remove the Spring TSB.
   ② Remove the TSB.
5) Body Prism Led
   ① Remove the Body Prism Led.

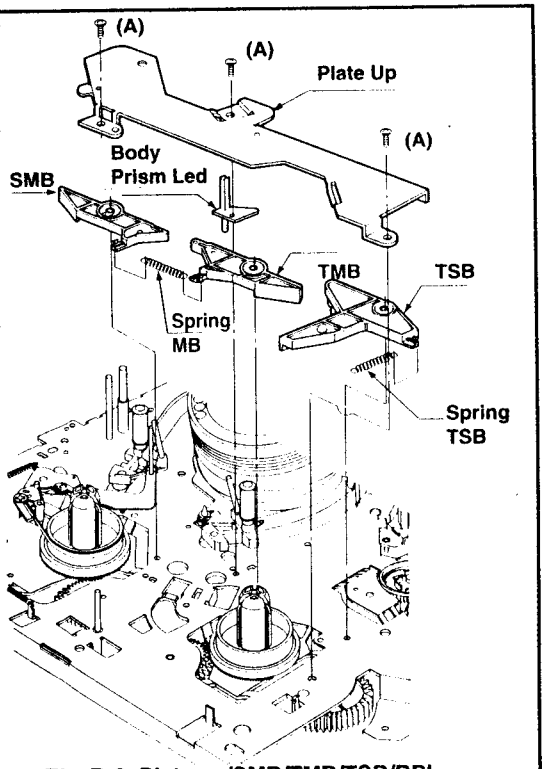


Fig. B-6 Plate up/SMB/TMB/TSB/BPL

7. Tension Arm/Lever Assembly Tension (Fig. B-7)

1) Remove the Spring Tension.
2) Push the tab(A) of the Base Tension on the back cover of the Deck Mechanism Assembly outward and remove the Tension Arm Assembly.
3) Push the tab(B) on the back side of the Holder Band(A) and remove the Tension Arm Assembly.
4) Push two tabs(C) on the bottom side of the Lever Tension and Lift up the Lever Assembly Tension.

NOTES:

When disassembling and reassembling:

① (D) is engaged to the cam groove of the Gear Cam L/D and two tabs(C) are engaged in the chassis. (care must be taken not to damage the two tabs when disassembling and reassembling)

② When disassembling, turn to the counterclockwise and lift up so that grease which may be on (D) is not transfered to the Reel Brake Drum.

③ When assembling, the 2.5mm hole of the Lever Assembly Tension should be aligned with the 2.5mm hole in the chassis.

④ After reassembling, adjust the Tension.

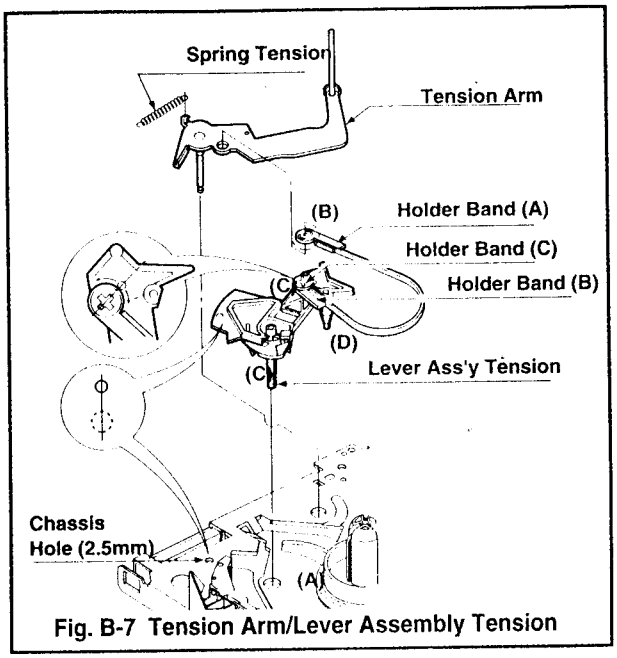


Fig. B-7 Tension Arm/Lever Assembly Tension

8. TAB Lever (Fig. B-8)

(Optional Item)

1) Remove the Lever Ass'y Tension.
2) Remove the Spring TAB.
3) Push the tab(A) on the bottom side of TAB Lever and remove the TAB Lever.

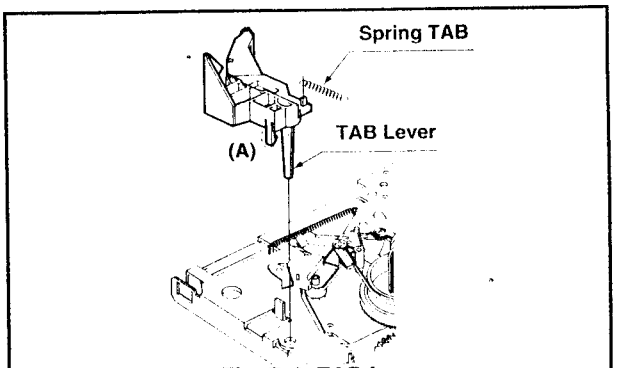


Fig. B-8 TAB Lever

DECK MECHANISM DISASSEMBLY

9. Supply Reel/Take Up Reel Assembly (Fig. B-9)

1) Lift up Reel(S), (T) after removing the Plate Up and Band Assembly.

NOTES:

① Be sure not to interchange the Take-up Reel and the Supply Reel.
② Do not allow the Brake Drum to come in contact with grease.

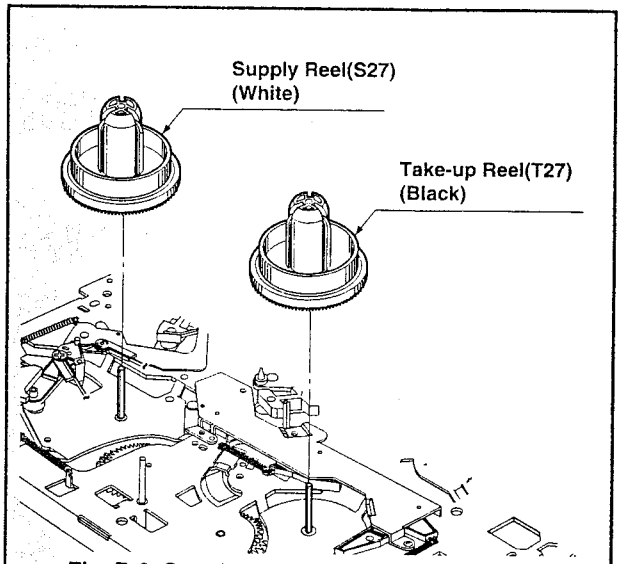


Fig. B-9 Supply Reel/Take-up Reel Assembly

10. Gear Pulley/Belt Capstan (Fig. B-10)

1) Turn over the Deck Mechanism Assembly.
2) Remove the Belt Capstan.
3) Remove the washer(A) and then lift up the Gear Pulley.

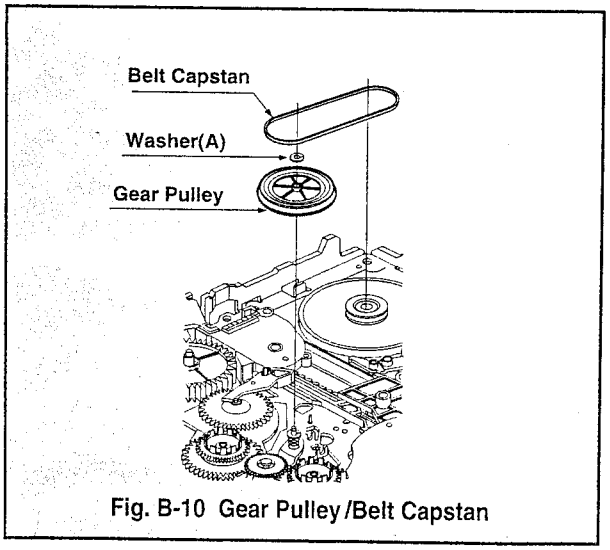


Fig. B-10 Gear Pulley/Belt Capstan

11. Gear H1, H2/Lever H1 (Fig. B-11)

1) Push and lift up the hook(B) of Lever H1.
2) Remove the washer(A) and then lift up the Gear H1.
3) Lift up the Spring H1.
4) Push and lift up the hook(B) of the Gear H2.

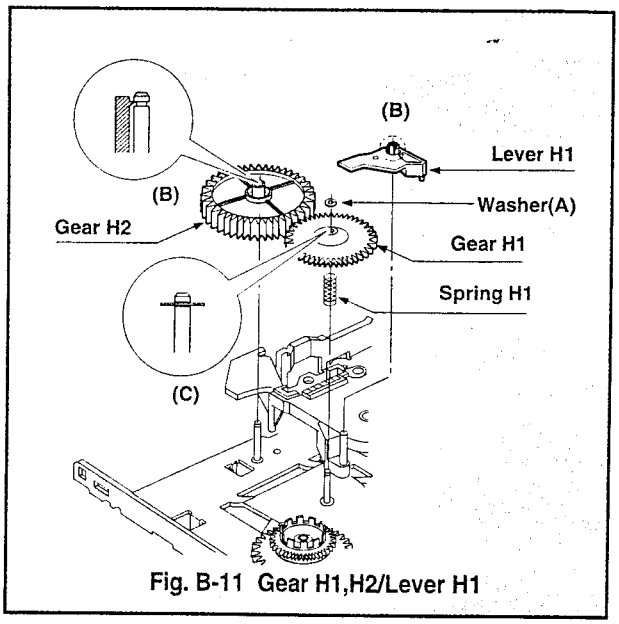


Fig. B-11 Gear H1,H2/Lever H1

12. Arm Assembly Idler (Fig. B-12)

1) Lift up the Gear Pulley after removing the washer(A).
2) Lift up the Spring Up/D after removing the washer(B).
3) Lift up the Arm Assembly Idler.

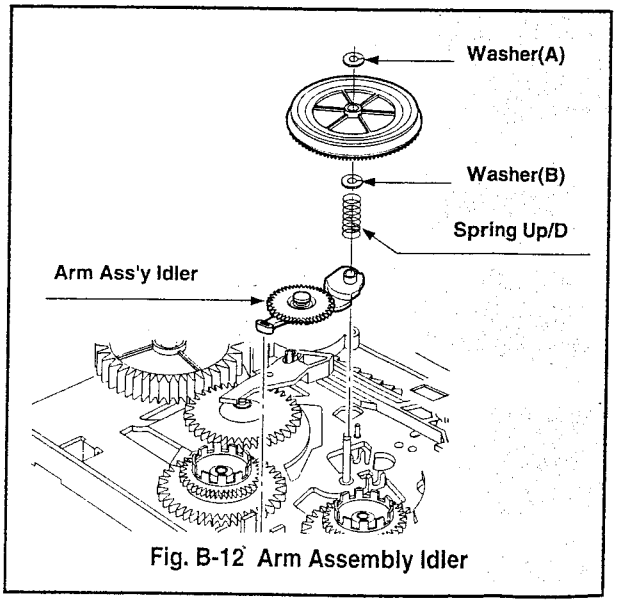


Fig. B-12 Arm Assembly Idler

13. Mode S/W (Fig. B-13)

1) Lift up the Lever H1.
2) Remove the screw(A) and lift up the Mode S/W.

NOTE

ⓘ When assembling mode, the groove of Gear (∩) and Body (o) of the Mode Switch should be aligned.

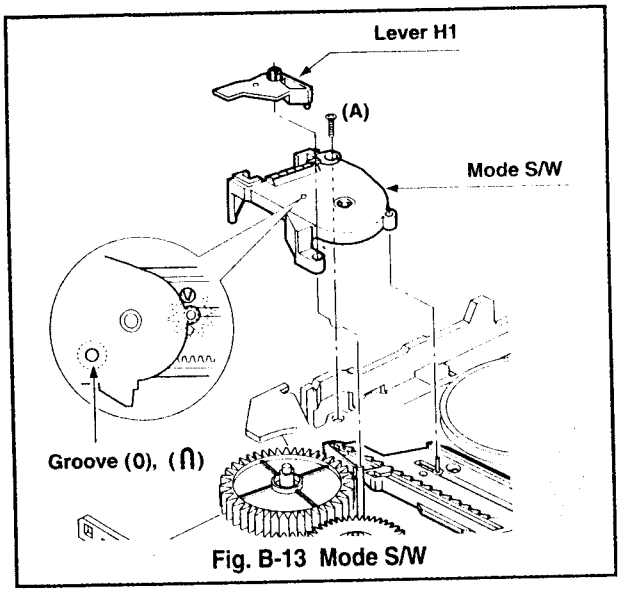


Fig. B-13 Mode S/W

14. Bracket Capstan/Capstan Motor Assembly (Fig. B-14)

1) Remove the Screw(A) and remove the Bracket Capstan.
2) Remove three Screws(B) on the top side and remove the Capstan Motor Assembly.

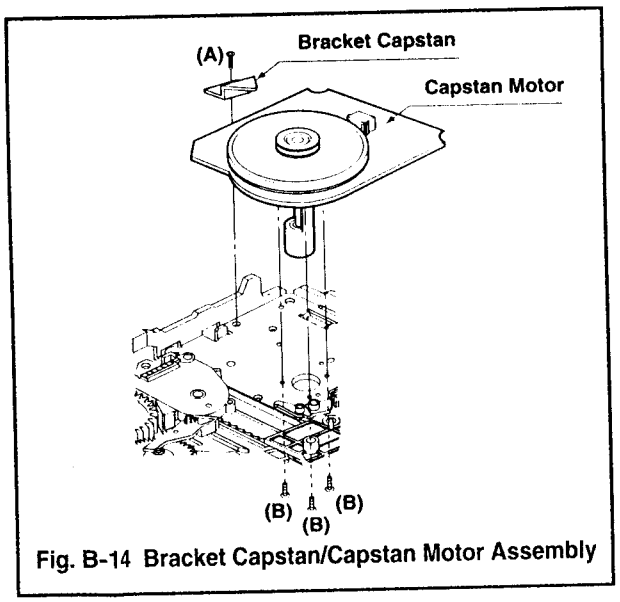


Fig. B-14 Bracket Capstan/Capstan Motor Assembly

15. Capstan Brake (Optional Part)/CAM Bracket Assembly (Fig. B-15)

1) Disconnect the spring connected to Capstan Brake and push the tab of CAM Bracket and then remove the Capstan Brake Assembly.
2) Remove three screws(A).
3) Remove the CAM Bracket Assembly.

NOTE

ⓘ After assembling the Capstan Brake be sure to reconnect the spring.

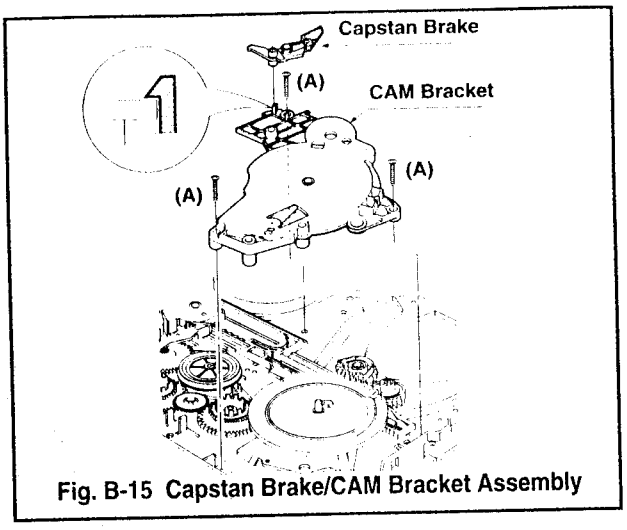


Fig. B-15 Capstan Brake/CAM Bracket Assembly

16. Cam Bracket/Lever Jog/Gear Jog (Fig. B-16)

1) Remove the Cam Bracket Assembly.
2) Remove the Spring Jog.
3) Push the hook(A) and remove the Lever Jog.
4) Push the hook(B) and remove the Gear Jog.

NOTE

ⓘ The tab(B) on the Gear Jog should be in groove of the Lever Jog.

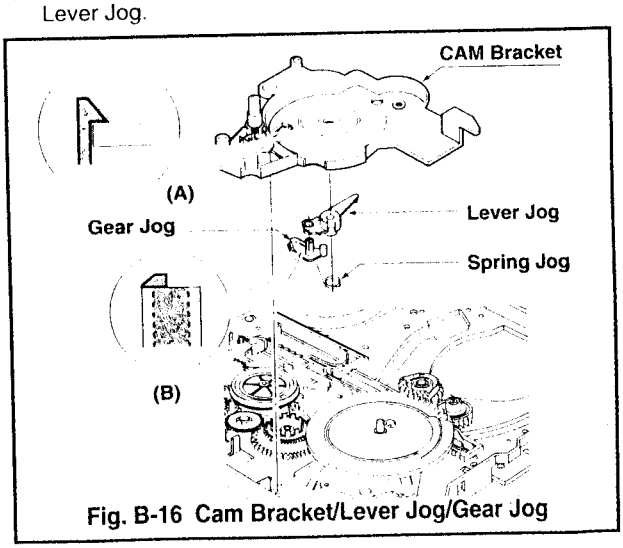


Fig. B-16 Cam Bracket/Lever Jog/Gear Jog

DECK MECHANISM DISASSEMBLY

17. Gear Cam L/D (Fig. B-17)

1) Remove the Cam Bracket Assembly.
2) Remove the Gear Cam L/D.

NOTE

1) When assembling the Gear Cam L/D, the groove (/\/\) of Plate Slider should coincide with to the groove (V) on the Gear Cam L/D.

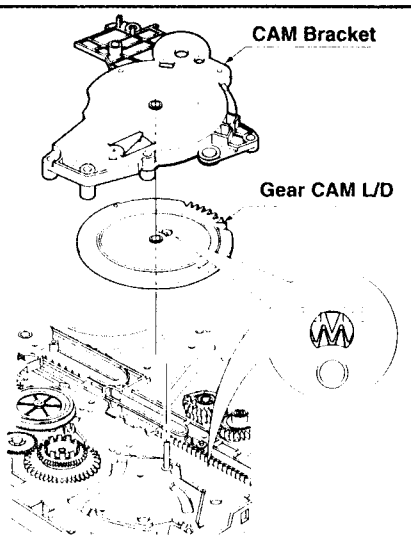


Fig. B-17 Gear Cam L/D

18. Gear P/S Plate Slider (Fig. B-18)

1) Remove two washers(C).
2) Remove the Plate Slider.
3) Remove the Gear PS.

NOTE

1) When the hole(A) of the Gear PS is aligned to the hole(B) of the chassis, the groove(V) of the Plate Slider should be aligned to the groove(/\/\) of the Gear PS.

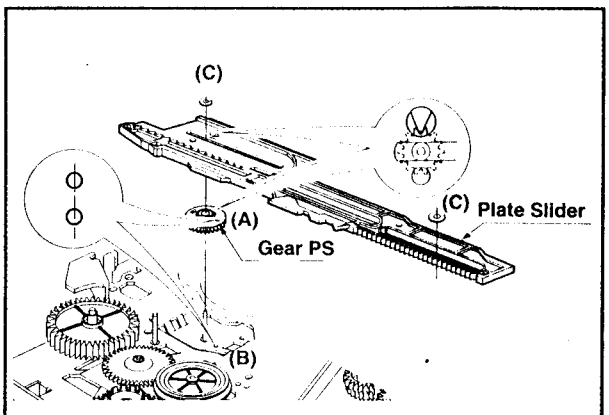


Fig. B-18 Gear PS/Plate Slider

19. Gear Assembly P2/P3 (Fig. B-19)

1) Remove the Plate Slider.
2) Remove by pushing one hook(B) on the top side of Gear Assembly P3.
3) Remove by pushing one hook(A) on the top side of Gear Assembly P2.

NOTES:

When disassembling and reassembling:

① The P2 and P3 Gear Assembly should not be interchanged.
② The groove(V), of Gear P2 should be aligned to the groove(/\/\ ) of Gear P3.
③ Set the hole of Lever to the Boss of P2 and P3 Base Assembly.
(When assembling make sure that the Lever is not bent.)

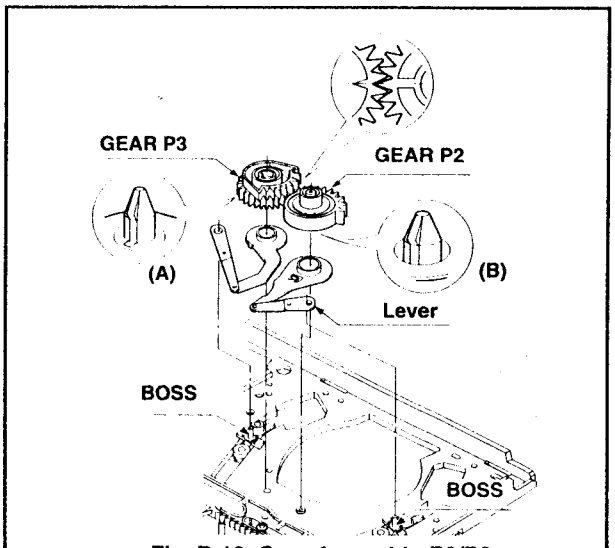


Fig. B-19 Gear Assembly P2/P3

20. Base Assembly P2/P3 (Fig. B-20)

1) Remove the P2/P3 Gear Assembly.
2) Remove the P2/P3 Base Assembly.

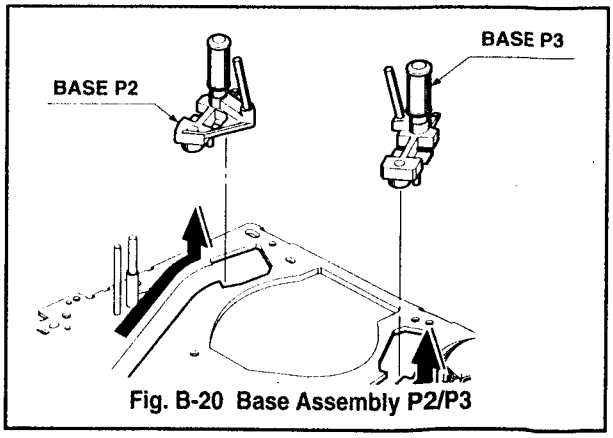


Fig. B-20 Base Assembly P2/P3

DECK MECHANISM DISASSEMBLY

21. Guide Roller Assembly (Fig. B-21)

1) Remove two screws(A).
2) Remove the Guide Roller From the Base P2/P3 by turning it.

NOTE

When disassembling and reassembling:
① The P2 and P3 Base should not be interchanged.

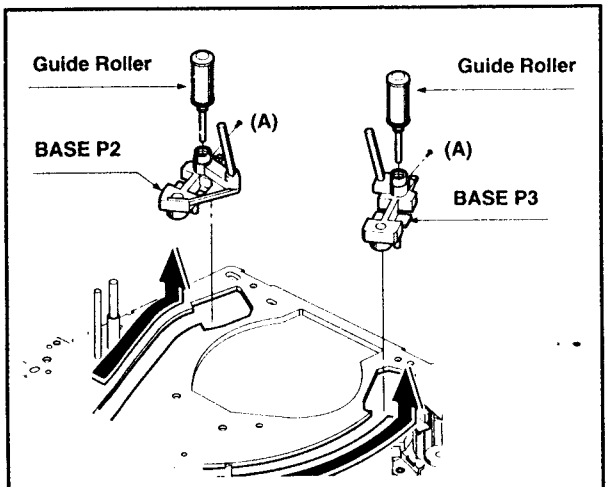


Fig. B-21 Guide Roller Assembly

22. Clutch Assembly S27 (Fig. B-22)

1) Remove the Gear Cam L/D and the Arm Assembly Idler.
2) Remove the washer(A).
3) Remove the Clutch Assembly S27.

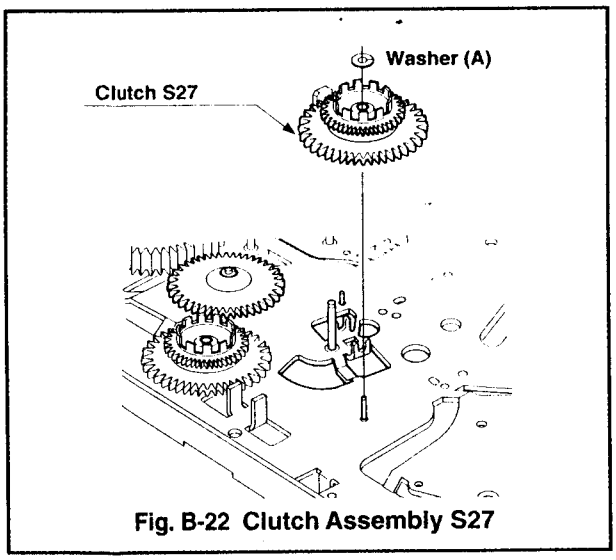


Fig. B-22 Clutch Assembly S27

23. Clutch Assembly T27 (Fig. B-23)

1) Remove the Gear H1 and Arm Assembly Idler.
2) Remove the washer(A).
3) Remove the Clutch Assembly T27.

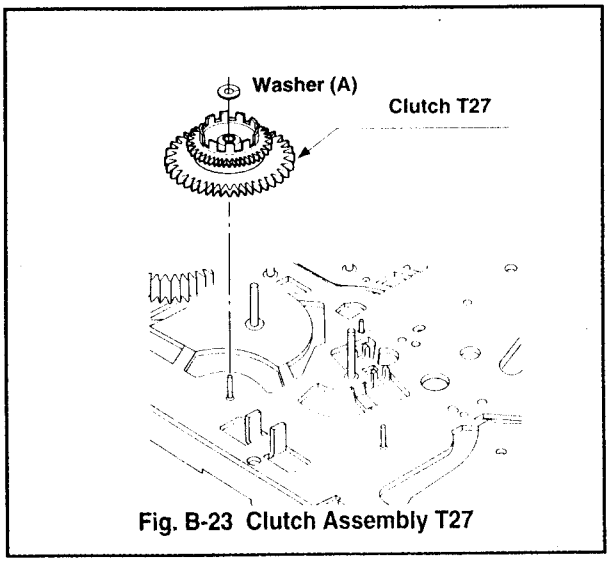


Fig. B-23 Clutch Assembly T27

24. Lever Assembly F/R & Arm F/R (Fig. B-24)

1) Remove the Plate Slider.
2) Remove the washer(A).
3) Remove the Lever Assembly F/R.
4) Remove the Arm Assembly Idler.
5) Remove the Arm F/R.

NOTE

1) When disassembling the Arm F/R should be horizontal.

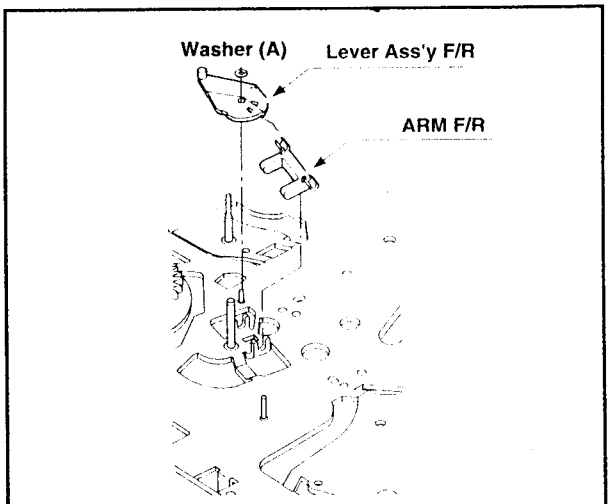


Fig. B-24 Lever Assembly F/R & Arm F/R

DECK MECHANISM DISASSEMBLY

25. Base Tension (Fig. B-25)

1) Remove the Bracket Assembly Cam/Bracket Cam.
2) Remove the Base Tension by pushing two tabs (A), (B).

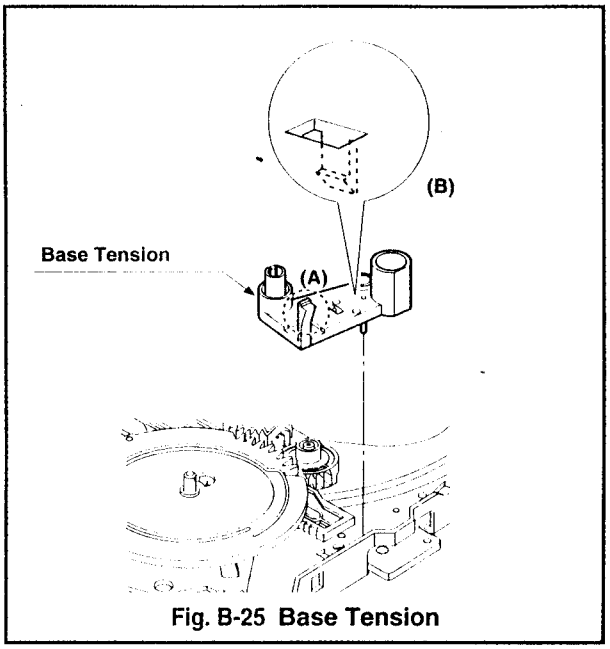


Fig. B-25 Base Tension

26. Holder Pinch Assembly (Fig. B-26)

1) Separate the Holder Pinch Assembly by pushing tab(A) on the L/D Motor Bracket in the direction of arrow (B).

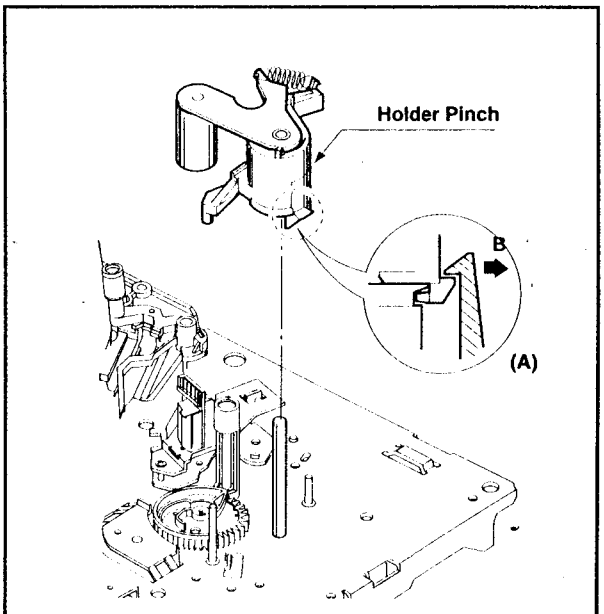


Fig. B-26 Holder Pinch Assembly

27. Pinch Arm Assembly (Fig. B-27)

1) Remove the Spring Pinch.
2) Remove the Pinch Arm Assembly by turning it counterclockwise.

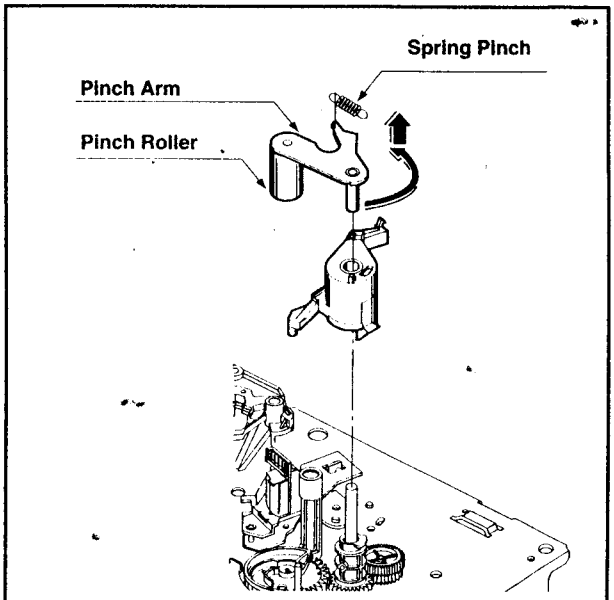


Fig. B-27 Pinch Arm Assembly

28. L/D Motor Bracket Assembly (Fig. B-28)

1) Remove three Screws(A).
2) Push the tabs(A) and remove the L/D Motor Bracket Assembly.

NOTES:

When assembling and disassembling:

(1) Make sure Grease from the Gear Pinch does not come in contact with the wing of the L/D Motor Bracket.

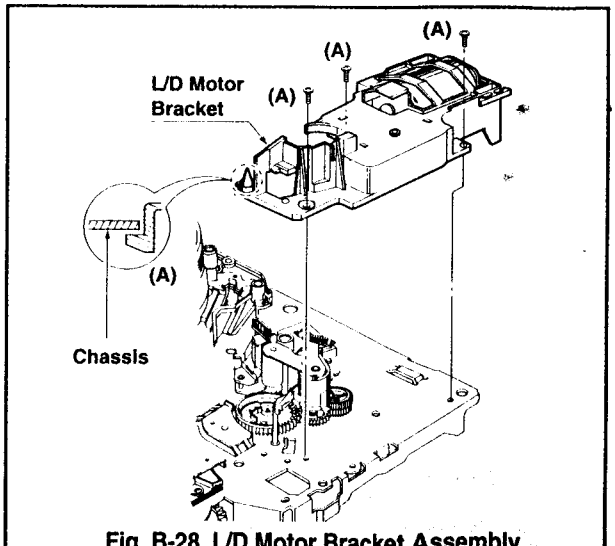


Fig. B-28 L/D Motor Bracket Assembly

DECK MECHANISM DISASSEMBLY

29. Worm Wheel (Fig. B-29)

1) Remove the L/D Motor Bracket Assembly.

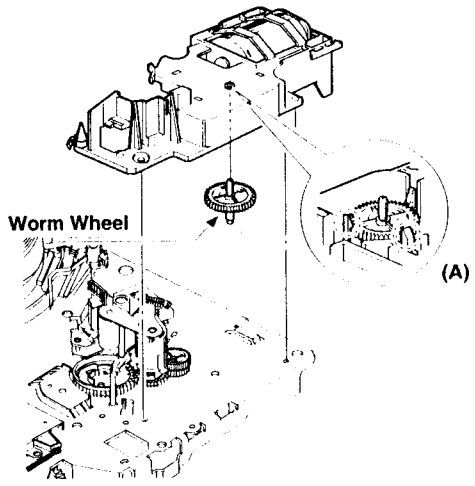


Fig. B-29 Worm Wheel

30. L/D Motor Assembly & Worm L/D Motor & L/D Motor Bracket (Fig. B-30)

1) Remove the L/D Motor Bracket Assembly.
2) Push two tabs(A) on the L/D Motor Bracket and then remove it.
3) Push the L/D Motor Assembly in lower direction and then remove.
4) Remove the Worm L/D Motor from the L/D Motor Assembly in the direction of arrow (A).
5) Remove the L/D Motor Assembly and the Worm L/D Motor and then L/D Motor Bracket is removed.

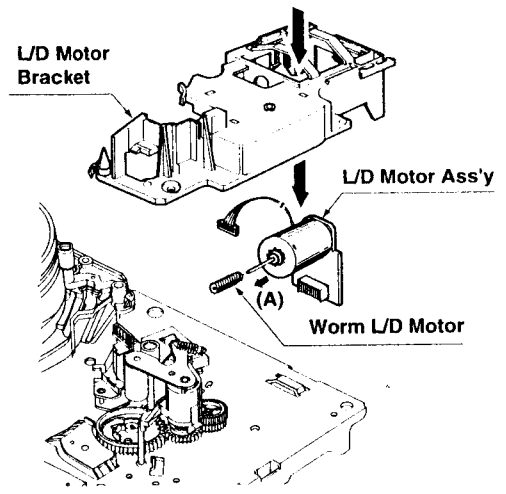


Fig. B-30 L/D Motor Assembly/ Worm L/D Motor/ L/D Motor Bracket

31. Gear CNT (Fig. B-31)

1) Remove the L/D Motor Bracket Assembly.
2) Remove the Pinch Arm Assembly.
3) Remove the Gear CNT.

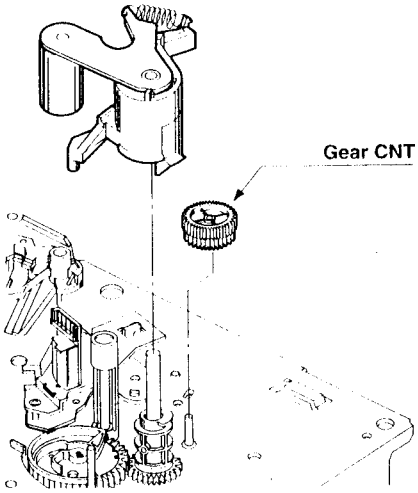


Fig. B-31 Gear CNT

32. Gear Pinch (Fig. B-32)

1) Remove the Pinch Arm Assembly.
2) Remove the Gear CNT.
3) Remove the Gear Pinch.
4) When reassembling, make sure that the two teeth with timing marks line up with the arrow at two o'clock on the Pinch Cam Gear.

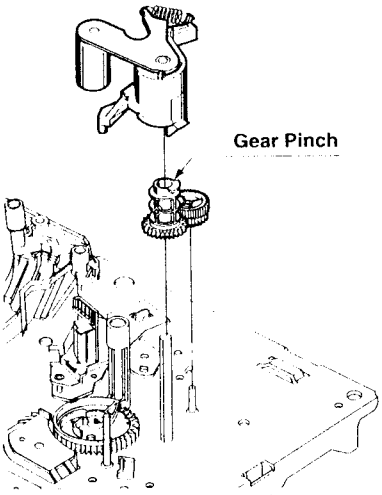


Fig. B-32 Gear Pinch

DECK MECHANISM DISASSEMBLY

33. T/Up Arm Assembly (Fig. B-33)

1) Remove the L/D Motor Bracket Assembly.
2) Turn over the T/Up spring and separate the T/Up Arm Assembly.
3) Remove the spring.

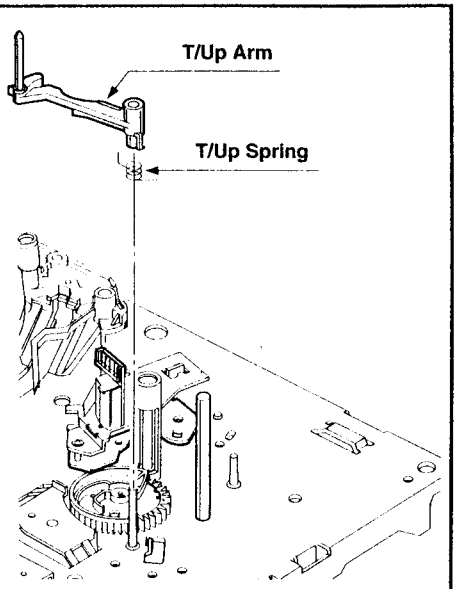


Fig. B-33 T/up Arm Assembly

34. Gear Pinch Cam (Fig. B-34)

1) Remove the T/Up Arm Assembly.
2) Remove by pushing one tab(A) on the bottom side of the Gear Pinch Cam.

NOTE

When disassembling and reassembling:
① The small hole on the Gear Pinch Cam and hole of chassis should be aligned.

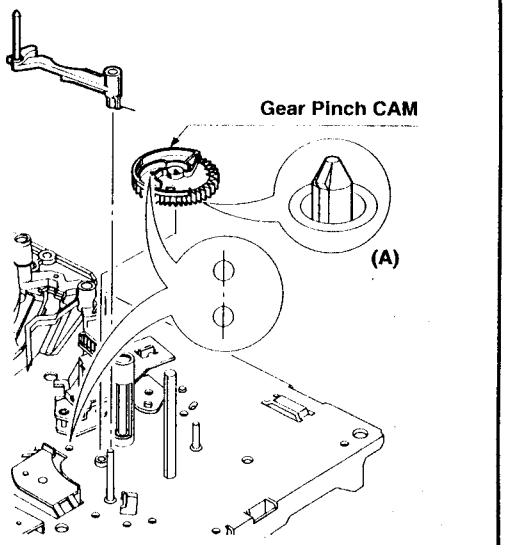
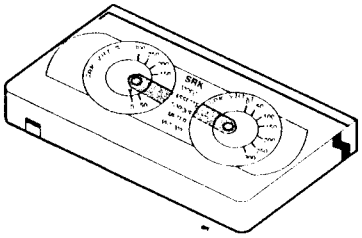
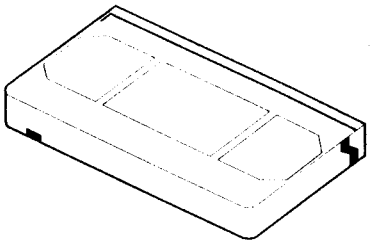
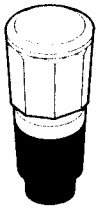
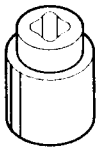
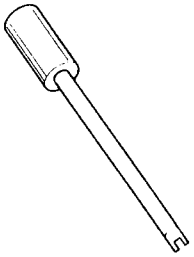
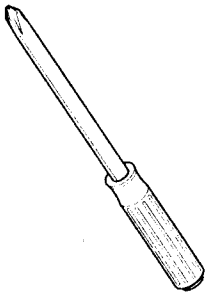


Fig. B-34 Gear Pinch Cam

● Tools and Fixtures for Deck

1. Cassette Torque meter Parts No: D00-D006 	2. Alignment tape Parts No NTSC: DTN-0001 	3. Torque gauge Parts No: D00-D002 
4. Torque gauge adaptor Parts No: D09-R001 	5. Post height adjusting driver Parts No: DTL-0005 	6. + Type driver (5mm) Obtain locally 

MECHANISM ADJUSTMENT

1. Mechanism and Mode Switch Alignment Check

Purpose: To determine if the mode switch and mechanism are in the correct position, when a tape is ejected from the loading mechanism.

Test Equipment / Fixture	Test Conditions VCR (VCP) State	Check Point
• Blank tape	• Eject Mode (with cassette ejected)	• Mechanism and Mode Switch Position

1) Turn power on and eject the cassette by pressing the eject button.
2) Remove the top and bottom covers.
3) Visually check the alignment of the Pinch Cam gear and PS gear holes, line up with holes in the chassis (figure C-2).
4) If the gears in step 3 do not align as indicated, then rotate the shaft of the loading motor to either the clockwise or counterclockwise direction until alignment does occur.
5) Turn the unit over and remove the main P.C.B thus exposing the bottom side of the deck mechanism.
6) Check the alignment of the mode switch as illustrated in figure C-1, (A).
7) If the alignment is incorrect then remove the mode switch and align as shown in figure C-1 with out changing the position of the Pinch Cam gear and PS gear.
8) Remount the mode switch and main P.C.B assembly and check operation.

CHECK DIAGRAM

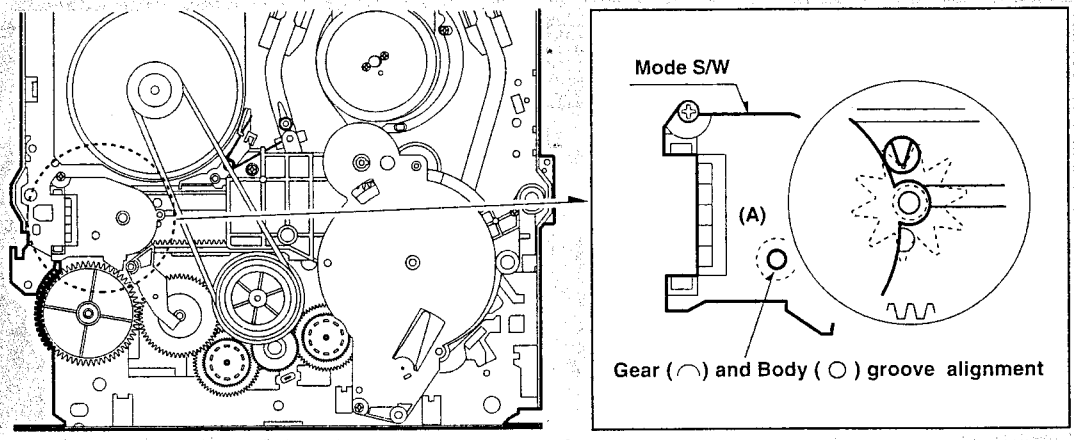


Fig. C-1

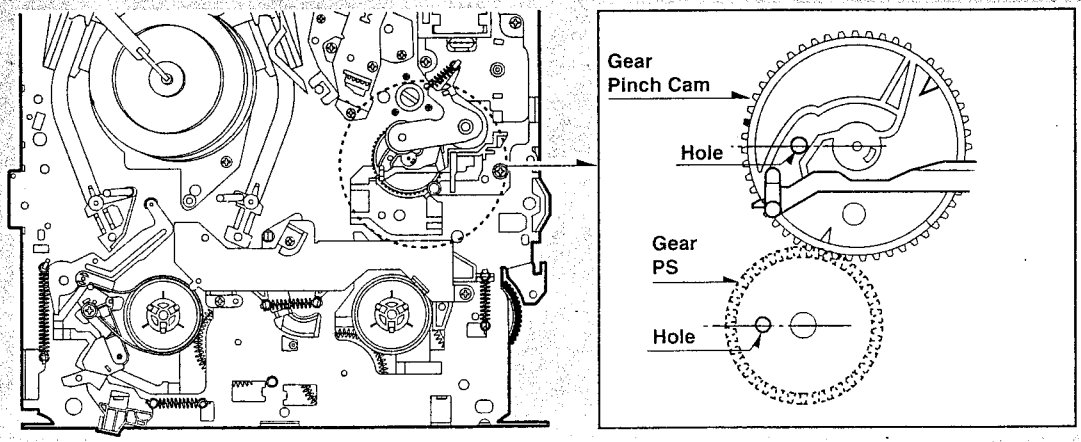


Fig. C-2

2. Preparation for Adjustment (To set VCR (VCP) to the loading state without inserting a cassette.)

1) Unplug the Power Cord from the AC outlet.
2) Separate the Top Cover and Front Loading Mechanism.
3) Plug the Power Cord into the AC outlet.
4) Turn the VCR on and push the tact switch in the P.C.B. Assembly.
   The VCR can accept inputs for each mode in this case. However the rewind and review operation cannot be performed for more than a few seconds because the take-up reel table is in the stop state and reel pulses cannot be detected.

NOTE

Cover the holes in the end sensors with black tape to prevent a light leak.

NOTES:

Always return the VCR(VCP) to the Front Loading Mechanism Assembly State in the following order after the above operations have been performed.

1) Press the Eject button after turning the power ON.
2) Wait for about 10 seconds until searching out the assembly position.
3) Assemble the Front Loading Mechanism and connect the Front Loading Mechanism Connector.
4) Refer to the "Front Loading Mechanism Disassembly" Section.

3. Tension Post Position and Tension Adjustment

Purpose: To insure uniform tape contact with the video head by maintaining constant tape tension.

Test Equipment / Fixture	Test Conditions VCR(VCP) State	Adjustment Point
• Cassette Torque Meter (For play 100g/cm)	• Position Adjustment: Play without a cassette • Tension Check: Play	• Holder Band B and C

Position Adjustment

1) Remove cassette.
2) Adjust the position of tension post in accordance with figure C-3.

NOTE

Align the Tension Post (2mm) to the hole in the Chassis (2.5mm).

Tension Adjustment

1) Turn on VCR and load the cassette torque meter.
2) Press the play button and observe the torque tension on the supply reel (spec. 37g/cm+5g/cm).
3) If torque is out of spec. then use a Phillips screw driver and move the screw head located in the center of the B and C band hold; to either the right or left until correct torque is indicated.

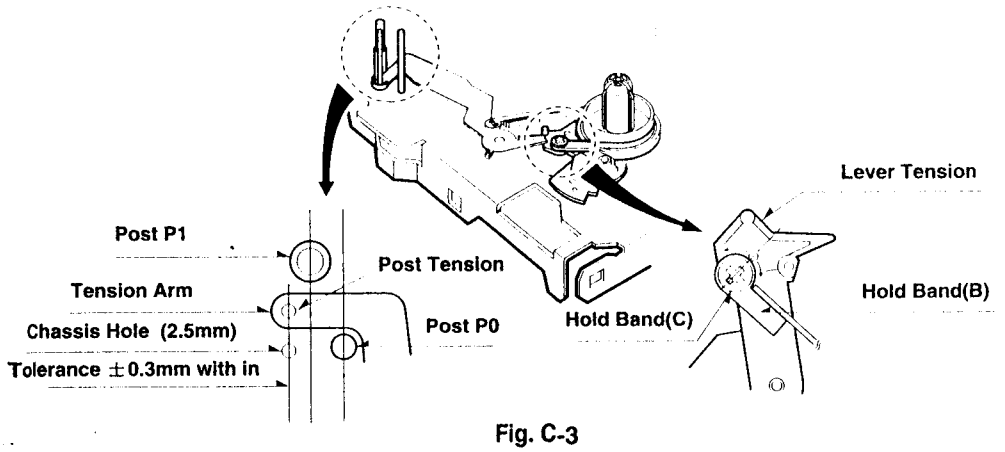


Fig. C-3

4. Checking Torque

Purpose: To insure smooth transport of the tape during each mode of operation. If tape transport is abnormal, then check the torque as indicated by the chart below.

Test Equipment / Fixture	Test Conditions VCR(VCP) State
• Torque Gauge(600 g/cm ATG) • Torque Gauge Adaptor • Cassette Torque Meter	• Set the VCR to each operating mode without inserting a cassette. (See '2. Preparation for Adjustment'. Page 4-17)

Item	Mode	Test Equipment	Measurement Reel	Measurement Values
Slack Removal Torque	Unloading	Cassette Torque Meter	Supply Reel	More than 140g/cm
Fast Forward Torque	Fast Forward	Cassette Torque Gauge	Take-Up Reel	More than 600g/cm
Rewind Torque	Rewind	Cassette Torque Gauge	Supply Reel	More than 600g/cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	35~55g/cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	140~190g/cm

Checking Method:
The Values are measured by using a torque gauge and torque gauge adaptor with the torque gauge affixed.

NOTE

The torque reading to measure occurs when the tape abruptly changes direction from fast forward or rewind mode, when quick braking is applied to both reels.

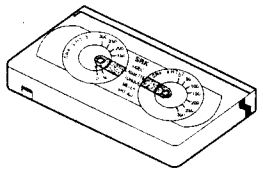


Fig. C-5

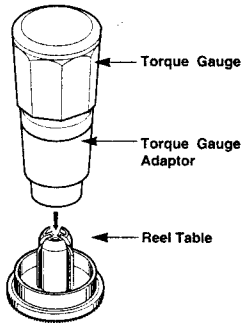


Fig. C-4

5. Guide Roller Height Adjustment

Purpose: To regulate the height of the tape so that the bottom of the tape runs along the tape guide line on the lower drum.

A. Preliminary Adjustment

Test Equipment / Fixture	Test Conditions VCR(VCP) State	Adjustment Point
• Post Height Adjusting Driver • Hexagonal Wrench or Allen Wrench Phillips screw driver	• Allows a good tape to play normally in spite of a damaged guide roller.	• Guide Roller Height Adjustment screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure
1) Perform the precise adjustment(See below B).
2) If the Guide Roller is damaged, loosen the Guide Roller retaining screw and replace the Guide Roller.
3) Adjust the height of P2, P3 so that TAPE is adjacent to the guide line.

ADJUSTMENT DIAGRAM

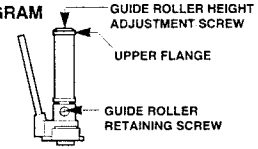


Fig. C-5-1

B. Precise Adjustment

Test Equipment / Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Point
• Oscilloscope • Alignment Tape • Post Height Adjusting Driver	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL : SW 25Hz • Head Switching Output Point • RF Envelope Output Point	• Play an alignment tape	• Guide Roller Height Adjustment Screws.

Adjustment Procedure
1) Play an alignment tape after connecting the probe of the oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking Control (in PB mode): Center position (When this adjustment is performed after the drum assembly has been replaced, set the tracking control so that the RF output is maximum.)
3) Height adjustment screw: Flatten the RF waveform. (Fig. C-5-2)
4) Turn (Move) the tracking control (in the Playback mode) clockwise and counterclockwise. (Fig. C-5-3))
5) Check that any drop of RF output is uniform at the start and end of the waveform.

CAUTION

If the adjustment is excessive or insufficient the tape will jam or fold.

Waveform Diagrams

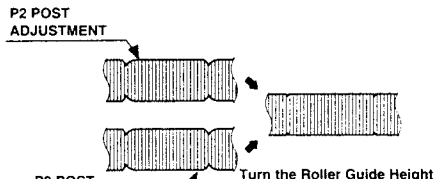


Fig. C-5-2

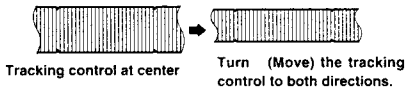
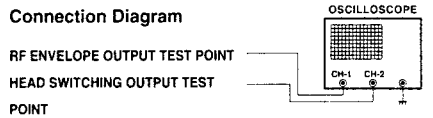


Fig. C-5-3

Connection Diagram



6. Audio/Control (A/C) Head Adjustment

Purpose: To insure that the tape passes accurately over the audio and control tracks in exact alignment in both the record and playback modes.

A. Preliminary Adjustment (Height and tilt adjustment)
Perform the Preliminary adjustment, when there is no Audio Output signal with a blank tape.

Test Equipment / Fixture	Test Conditions VCR(VCP) State	Adjustment Points
• Blank Tape • Screw Driver(+) Type 5mm	• Play the blank tape (CTL Tape)	• Tilt Adjustment Screw(C) • Height Adjustment Screw(B) • Azimuth Adjustment Screw(A)

Adjustment Procedure /Diagrams

1) Initially adjust the A/C head assembly as shown in figure C-6-1, by using the height adjustment screw(B).
2) Play a blank tape and observe if the tape passes accurately over the A/C head without tape curling or folding.
3) If folding or curling does occur then adjust the Tilt adjusting screw(C) while the tape is running to resemble figure C-6-3.
4) Confirm that the tape passes over the A/C head assembly as indicated by proper audio reproduction and proper tape counter performance.

NOTE

Ideal A/C head height occurs, when the tape runs between 0.2~0.25mm above the bottom edge of the A/C head core.

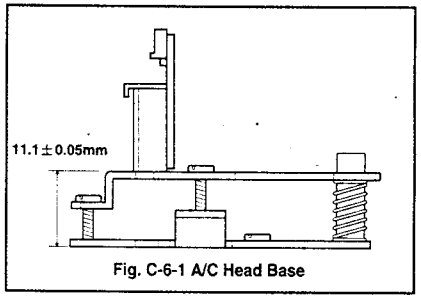


Fig. C-6-1 A/C Head Base

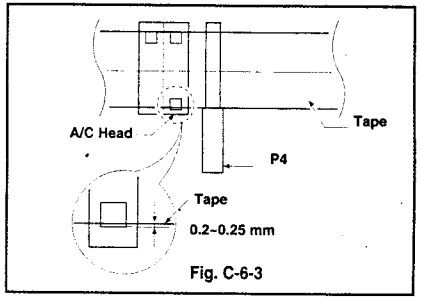


Fig. C-6-3

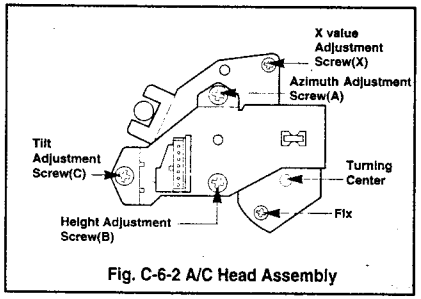


Fig. C-6-2 A/C Head Assembly

B. Confirm that the tape passes smoothly between the T/UP guide and the Pinch Roller (Using a mirror or the naked eye).

1) After completing step A. (Preliminary Adjustment), check that the tape passes around the T/UP post without folding at the top or bottom.
   If folding is observed, due the following:
   ① If folding is observed at the lower part of the T/UP post, then slowly turn the tilt adjustment in the clockwise direction to eliminate tape the curling.
   ② If folding is observed at the upper part of the T/UP post, then slowly turn the tilt adjustment in the counterclockwise direction to eliminate the tape curling.

C. RF Fine Adjustment (only if the RF waveform differs from figure C-5-3).

1) Check the RF Envelope after confirming smooth tape transport path at the T/UP Guide/Pinch Roller.

D. Precise Adjustment (Azimuth adjustment)

Test Equipment / Fixture	Test Equipment Connection Point	Test Conditions VCR (VCP) State	Adjustment Points
• Oscilloscope • Alignment tapes • Screw Driver(+) Type 5mm	• Audio output jack	• Play an alignment tape 1KHz, 7KHz sections.	• Azimuth Adjustment Screw(A) • Tilt Adjustment Screw(C)

Adjustment Procedure

1) Connect the probe of oscilloscope to Audio Output Jack.
2) Alternately adjust the Azimuth adjustment screw(A) and the Tilt adjustment screw(C) for maximum output of the 1KHz and 7KHz segments, while maintaining the flattest envelope differential between the two frequencies.

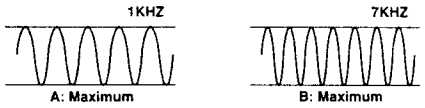


Fig. C-6-4

7. X-Value Adjustment

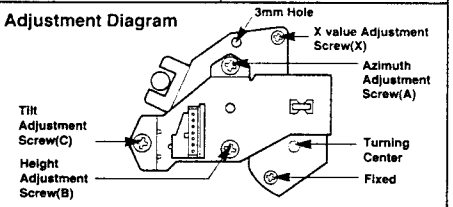
Purpose: To obtain compatibility with other VCR(VCP).

Test Equipment / Fixture	Test Equipment Connection Point	Test Conditions VCR (VCP) State	Adjustment diagrams
• Oscilloscope • Alignment tapes • Screw Driver(+) Type 5mm • Post Height Adjusting Driver	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL : SW 25Hz • Head Switching Output Test Point • RF Envelope Output Test Point	• Play an alignment tape	Left / Right / Groove at the Base A/C

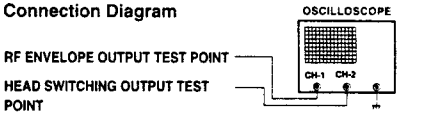
Adjustment Procedure

1) Loosen the fixed mounting and X Value adjustment screw.
2) Allow the mechanism to run long enough for auto tracking to complete it's cycle.
3) Move the A/C base laterally in the direction as shown in the diagram to find the center of the peak that allows for the maximum waveform envelope. This method should allow the 30um head to be centrally located over the 60um tape track.
4) Tighten the A/C head assembly mounting screws.

Adjustment Diagram



Connection Diagram



8. Adjustment after Replacing Drum Assembly (Video Heads)

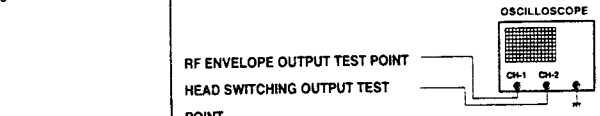
Purpose: To correct for shift in the roller guide and X value after replacing the drum.

Test Equipment / Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Points
• Oscilloscope • Alignment tape • Blank Tape • Post Height Adjusting Driver • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL : SW 25Hz • Head Switching Output Test Point • RF Envelope Output Test Point	• Play the blank tape • Play an alignment tape	• Guide Roller Precise Adjustment • Switching Point • Tracking Preset • X-Value

Checking/Adjustment Procedure

Play a blank tape and check for tape curling or creasing around the roller guide. If there is a problem then follow the procedure 5. "Guide Roller Height" and 6. "Audio Control(A/C) Head Adjustment".

Connection Diagram



Waveform

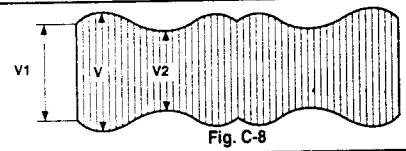


Fig. C-8

9. Check the Tape Travel after Reassembling Deck Assembly.

9-1. Check Audio and RF Locking Time during playback and after CUE or REV (FF/REW)

Test Equipment / Fixture	Specification	Test Equipment Connection Points	Test Conditions VCR(VCP) State
• Oscilloscope • Alignment tape (with 6H 3kHz Color Bar Signal) • Stop Watch	• RF Locking Time: Less than 5 sec. • Audio Locking Time: Less than 10 sec.	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Output Jack	• Play an alignment tape (with 6H 3kHz Color Bar Signal)

Checking Procedure

Play an alignment tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.

NOTES:

1) CUE is fast forward mode (FF)
2) REV is the rewind mode (REW)
3) Referenced to the Play mode

9-2. Check the condition between the Audio and Video Sync. (Lip Sync.)

Test Equipment / Fixture	Specification	Test Equipment Connection Points	Test Conditions VCR(VCP) State
• Oscilloscope • Alignment Tape	• Less than ±16.6msec	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Output Jack	• Play an alignment tape

Checking Procedure

1) Confirm that the period Ⓐ in Fig. C-9-1 is within ±16.6m/sec.
2) If the result is abnormal, repeat adjustment #7. (X-Value adjustment)

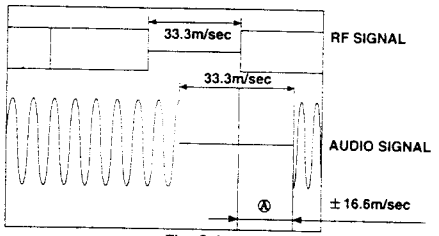


Fig. C-9-1

9-3. Check for tape curling or jamming

Test Equipment / Fixture	Specification	VCR(VCP) State
• T-160 Tape • T-120 Tape	• Be sure there is no tape jamming or curling at the begining, middle or end of a T-160 tape.	• Run the CUE, REV play mode at the beginning and the end of the tape.

Checking Procedure

1) Confirm that the tape runs smoothly around the roller guides, drum and A/C head assemblies while abruptly changing operating modes from Play to CUE or REV. This is to be checked at the begining, middle and end sections of the cassette.
2) Confirm that the tape passes over the A/C head assembly as indicated by proper audio reproduction and proper tape counter performance.

10. Maintenance/Inspection Procedure

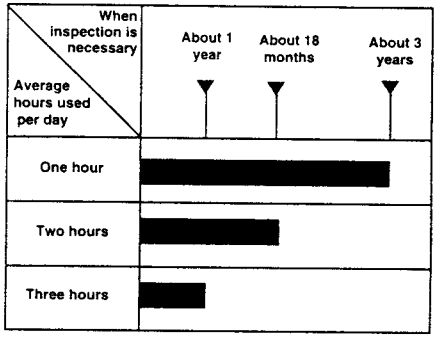
1) Required Maintenance

The recording density of a VCR(VCP) is much higher than that of an audio tape recorder. VCR(VCP) components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, is necessary.

2) Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR(VCP), and the environment in which the VCR(VCP) is used.
But, in general home use, a good picture will be maintained if inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1



3) Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.
Check with the customer to find out how often the unit is used, and then determine that the unit is ready for in spection and maintenance. Check the following parts.

Tabel 2

Phenomenon	Inspection
Poor S/N, no color	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pinch roller, belt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Color beats	Dirt on full-erase head
Low volume or distorted audio	Dirt on audio/control head
No Fast forward or rewind or rotation is slow	Dirt on belt

4) Supplies Required for Inspection and Maintenance

(1) Grease Kanto G-311G or equivalent
(2) Isopropyl Alcohol or equivalent
(3) Cleaning Patches

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head
First use a cleaning tape. If the dirt on the head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with Isopropyl Alcohol. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.
(Do not move the cleaning patch vertically. Make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)
Thoroughly dry the head. Then run the test tape. If Isopropyl Alcohol remains on the video head, the tape may be damaged when it comes into contact with the head surface.
(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with Isporopyl Alcohol.

NOTE

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which moves the tape.
② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no that force is that would cause deforming or damage applied to the system.

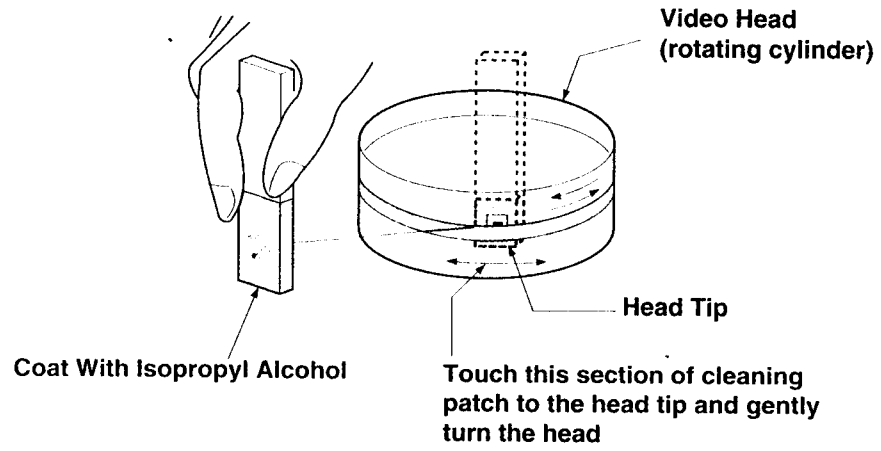

Video Head
(rotating cylinder)
Head Tip
Coat With Isopropyl Alcohol
Touch this section of cleaning patch to the head tip and gently turn the head

Fig. C-10-1

5-2) Greasing

(1) Greasing guidelines
Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with cleaning patch wetted in Isopropyl Alcohol.

(2) Periodic greasing
Grease specified locations every 5,000 hours.

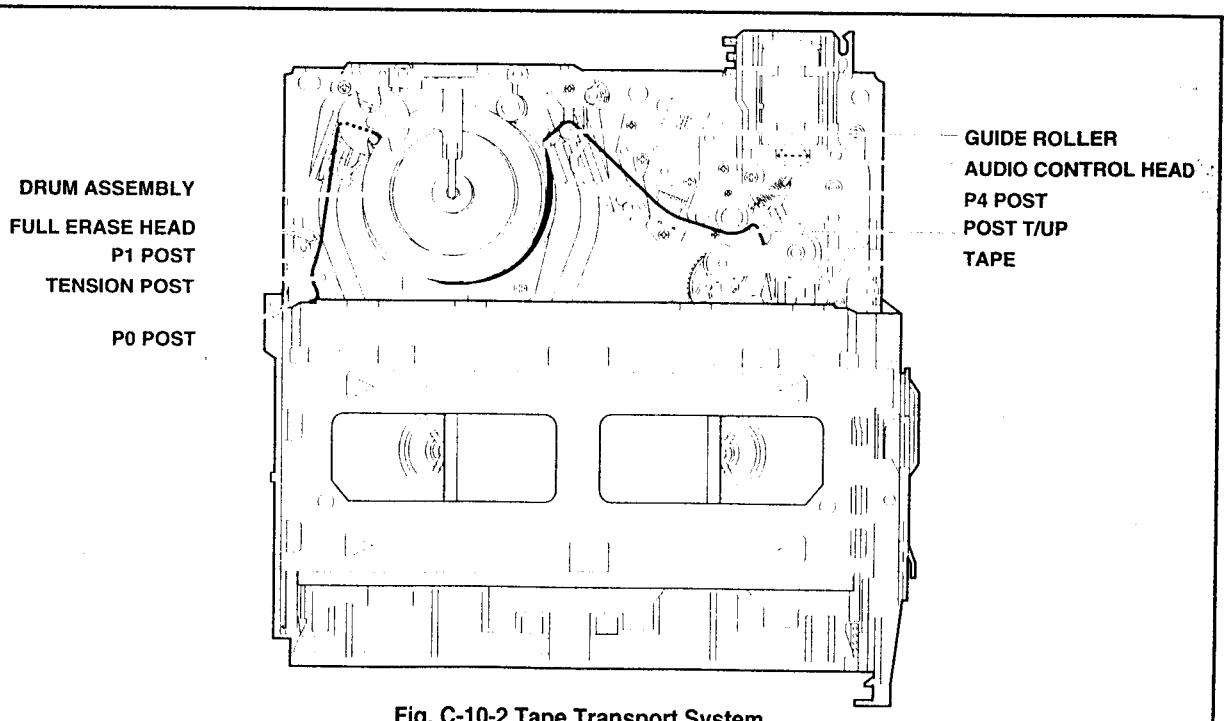


Fig. C-10-2 Tape Transport System

MECHANISM ADJUSTMENT

Phenomenon	Inspection	Replacement	
Color beats	Dirt on full-erase head	○	→ ①
Poor S/N no color	Dirt on video head	○	→ ②
Vertical jitter	Dirt on video head Dirt on tape transport system	○	→ ③
Low volume Sound distorted	Dirt on audio/control head	○	→ ④
Tape does not run. Tape is slack.	Dirt on pinch roller	○	→ ⑤

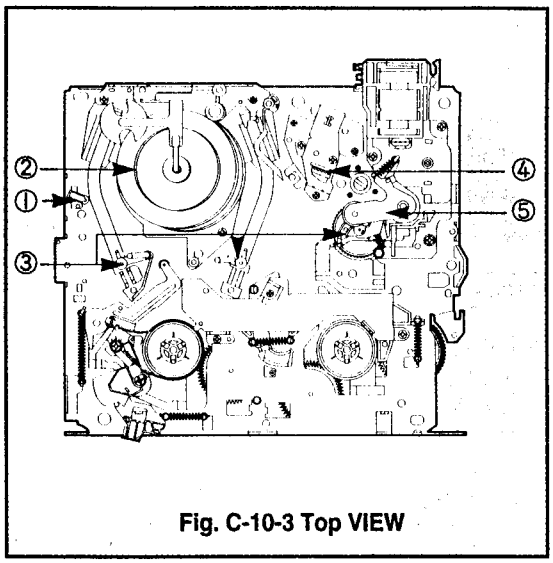


Fig. C-10-3 Top VIEW

Phenomenon	Inspection	Replacement	
• No fast forward or rewind, or rotation is slow • Tape does not run • Slack tape	Dirt on reel belt	○	→ ⑥
In Review and Unloading (off mode), the Tape is rolled up loosely.	Clutch Ass'y S27 Torque reduced Cleaning Drum and transport system	○	→ ⑦

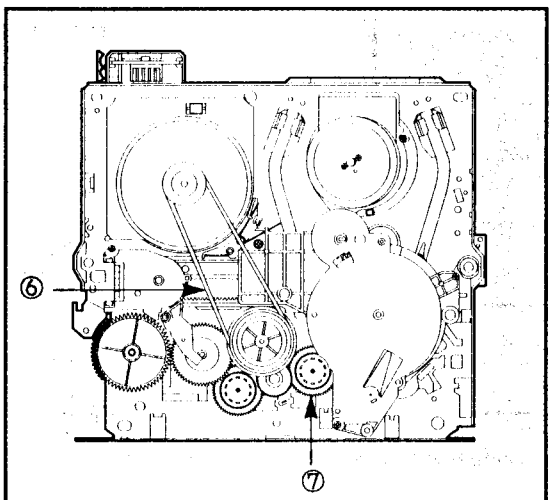


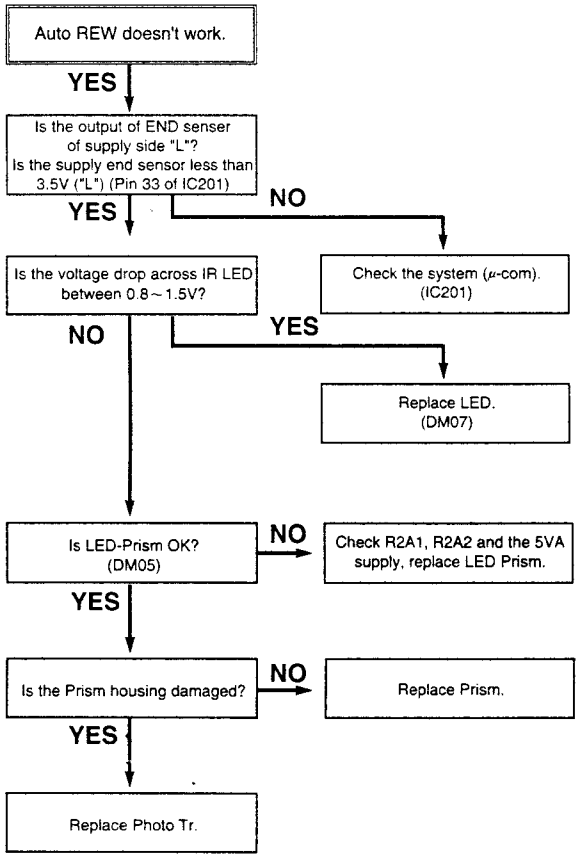
Fig. C-10-4 BOTTOM VIEW

Note

If locations marked with ○ do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

1.Deck Mechanism

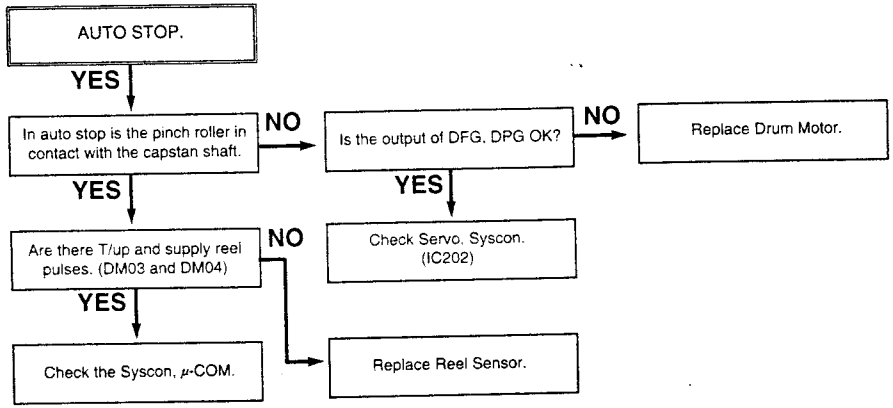
A.


Auto REW doesn't work.
YES
Is the output of END senser of supply side "L"? Is the supply end sensor less than 3.5V ("L") (Pin 33 of IC201)
YES
NO
Check the system (μ-com). (IC201)
Is the voltage drop across IR LED between 0.8~1.5V?
NO
YES
Replace LED. (DM07)
Is LED-Prism OK? (DM05)
NO
Check R2A1, R2A2 and the 5VA supply, replace LED Prism.
YES
Is the Prism housing damaged?
NO
Replace Prism.
YES
Replace Photo Tr.

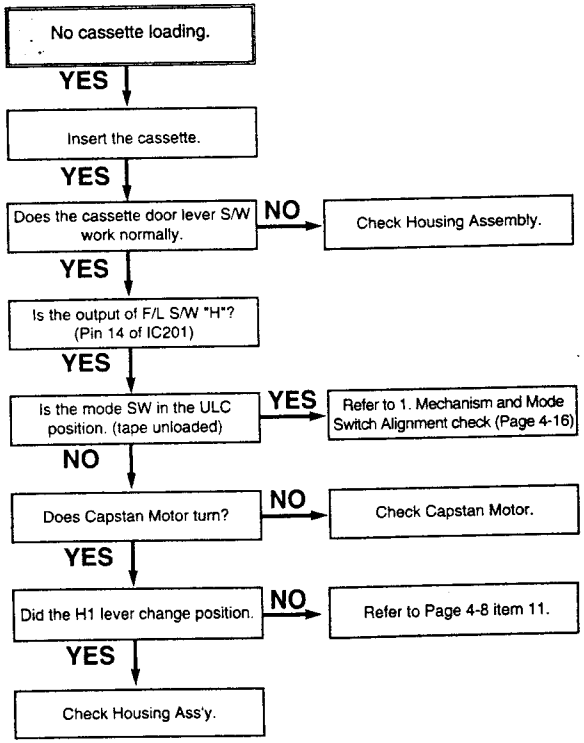
NOTES:

1) Auto REW takes place when the supply end sensor is "H" high.
2) "H"=voltage greater than 3.5V, "L"=voltage between 0.7~1.0V.
3) Refer to pages 3-17/18 and 3-25/26.

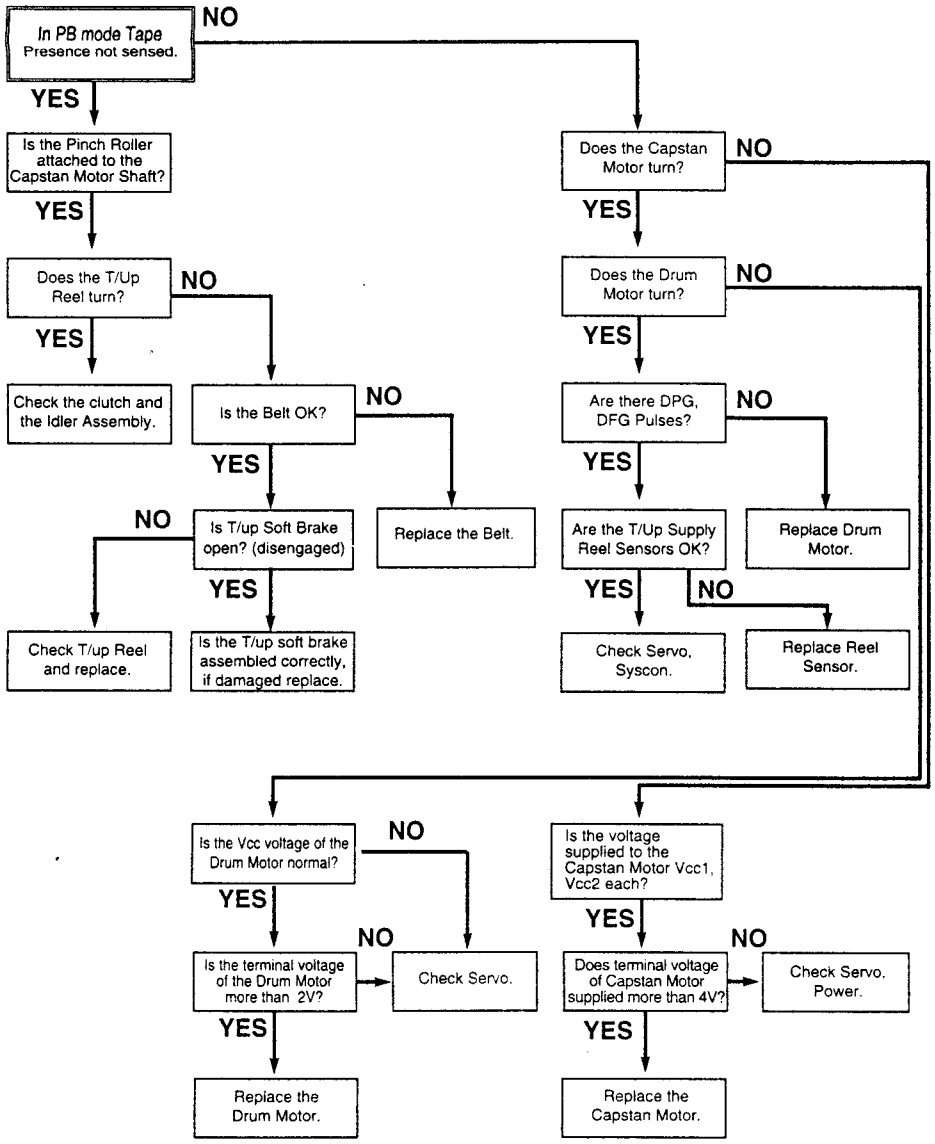
B.



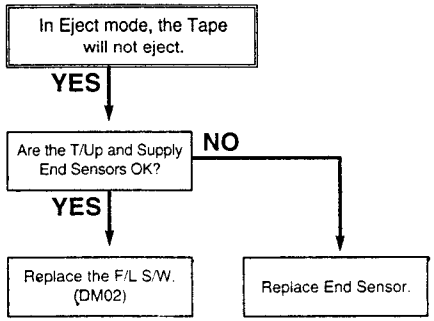
C.



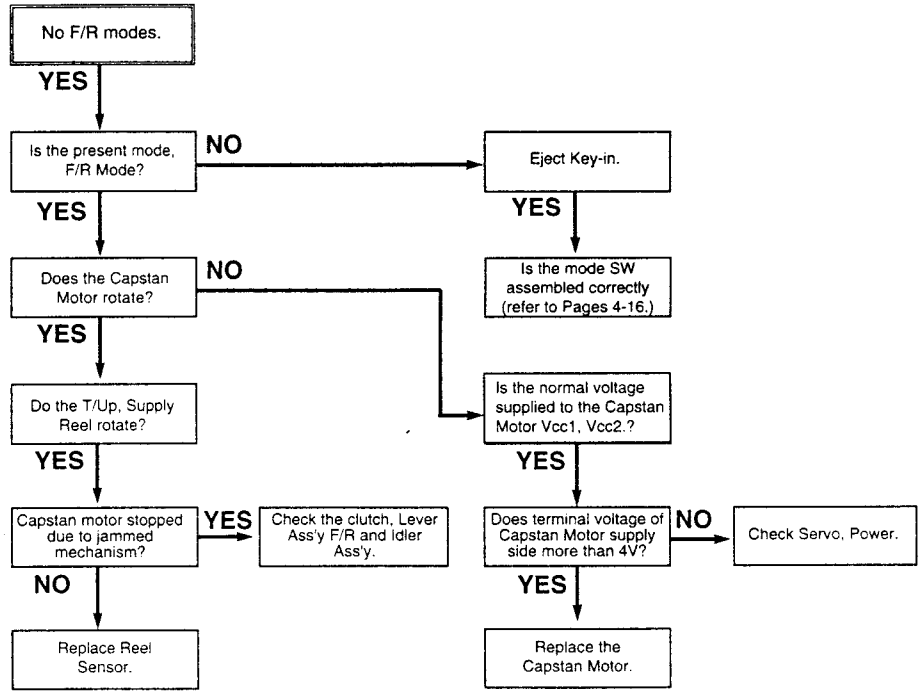
D.


In PB mode Tape Presence not sensed.
NO
YES
Is the Pinch Roller attached to the Capstan Motor Shaft?
YES
Does the T/Up Reel turn?
NO
YES
Check the clutch and the Idler Assembly.
Is the Belt OK?
NO
YES
Replace the Belt.
NO
Is T/up Soft Brake open? (disengaged)
YES
Check T/up Reel and replace.
Is the T/up soft brake assembled correctly, if damaged replace.
Does the Capstan Motor turn?
NO
YES
Does the Drum Motor turn?
NO
YES
Are there DPG, DFG Pulses?
NO
YES
Replace Drum Motor.
Are the T/Up Supply Reel Sensors OK?
YES
NO
Check Servo, Syscon.
Replace Reel Sensor.
Is the Vcc voltage of the Drum Motor normal?
NO
YES
Is the terminal voltage of the Drum Motor more than 2V?
NO
Check Servo.
YES
Replace the Drum Motor.
Is the voltage supplied to the Capstan Motor Vcc1, Vcc2 each?
YES
Does terminal voltage of Capstan Motor supplied more than 4V?
NO
Check Servo, Power.
YES
Replace the Capstan Motor.

E.

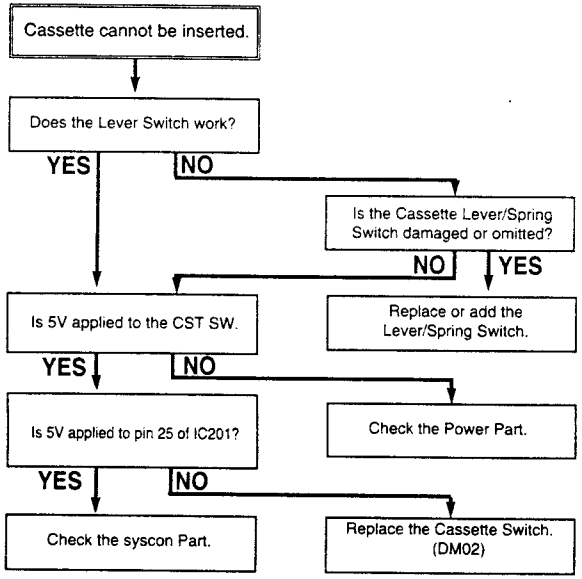

In Eject mode, the Tape will not eject.
YES
Are the T/Up and Supply End Sensors OK?
NO
YES
Replace the F/L S/W. (DM02)
Replace End Sensor.

F.

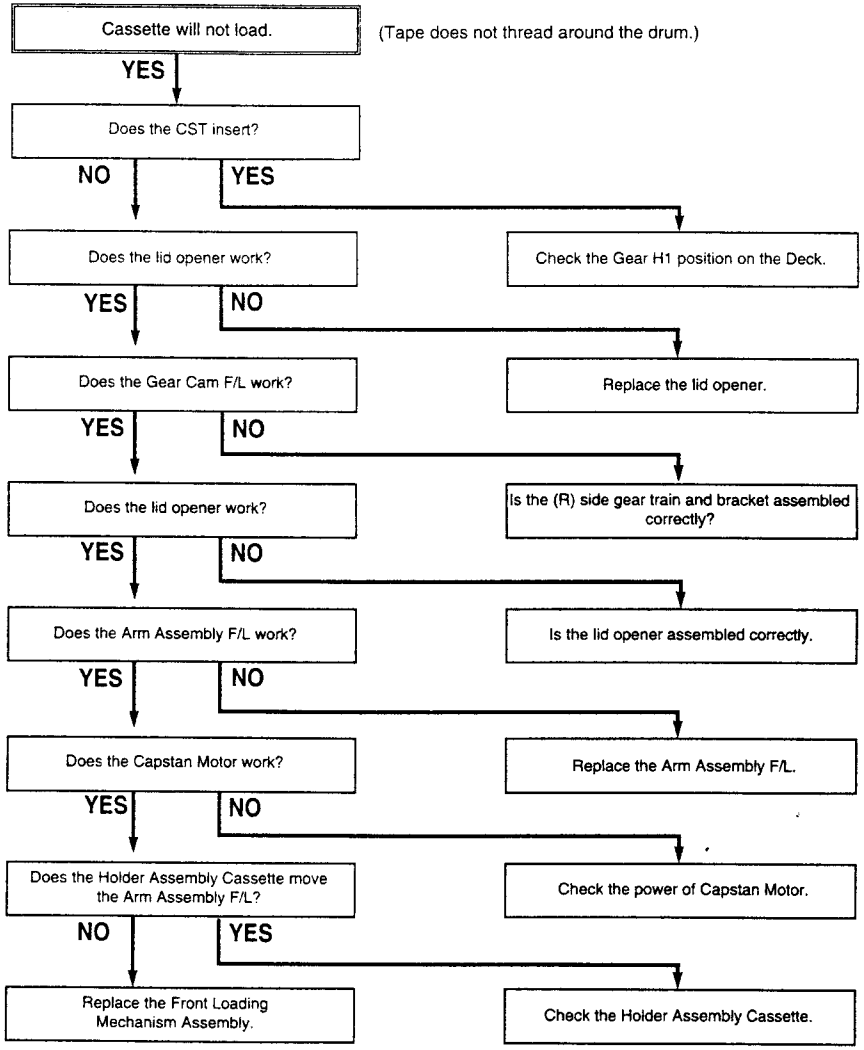

No F/R modes.
YES
Is the present mode, F/R Mode?
NO
YES
Eject Key-in.
YES
Is the mode SW assembled correctly (refer to Pages 4-16.)
Does the Capstan Motor rotate?
NO
YES
Do the T/Up, Supply Reel rotate?
YES
Capstan motor stopped due to jammed mechanism?
YES
Check the clutch, Lever Ass'y F/R and Idler Ass'y.
NO
Replace Reel Sensor.
Is the normal voltage supplied to the Capstan Motor Vcc1, Vcc2.?
YES
Does terminal voltage of Capstan Motor supply side more than 4V?
NO
Check Servo, Power.
YES
Replace the Capstan Motor.

2. Front Loading Mechanism

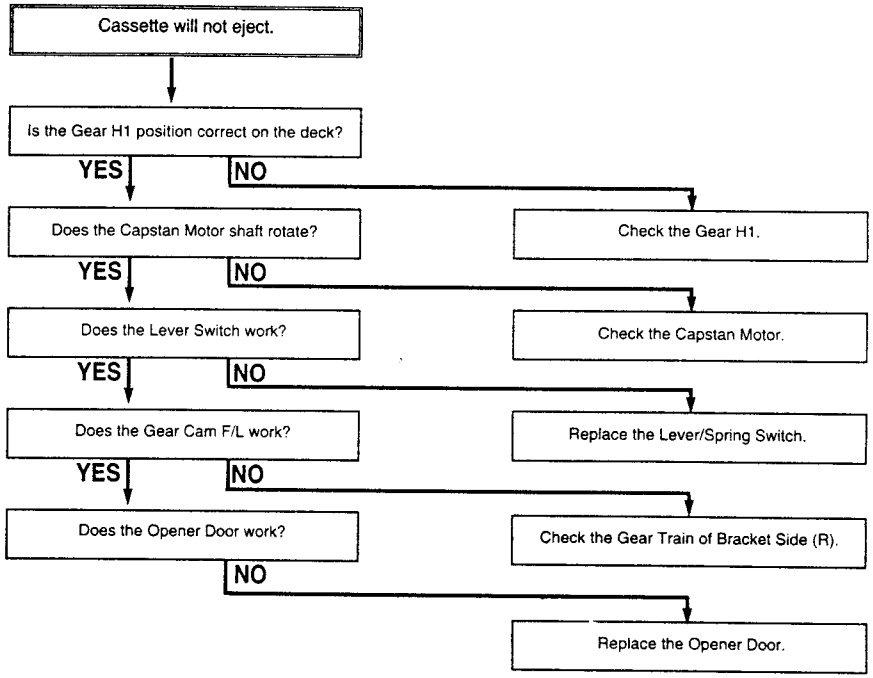
A.



B.

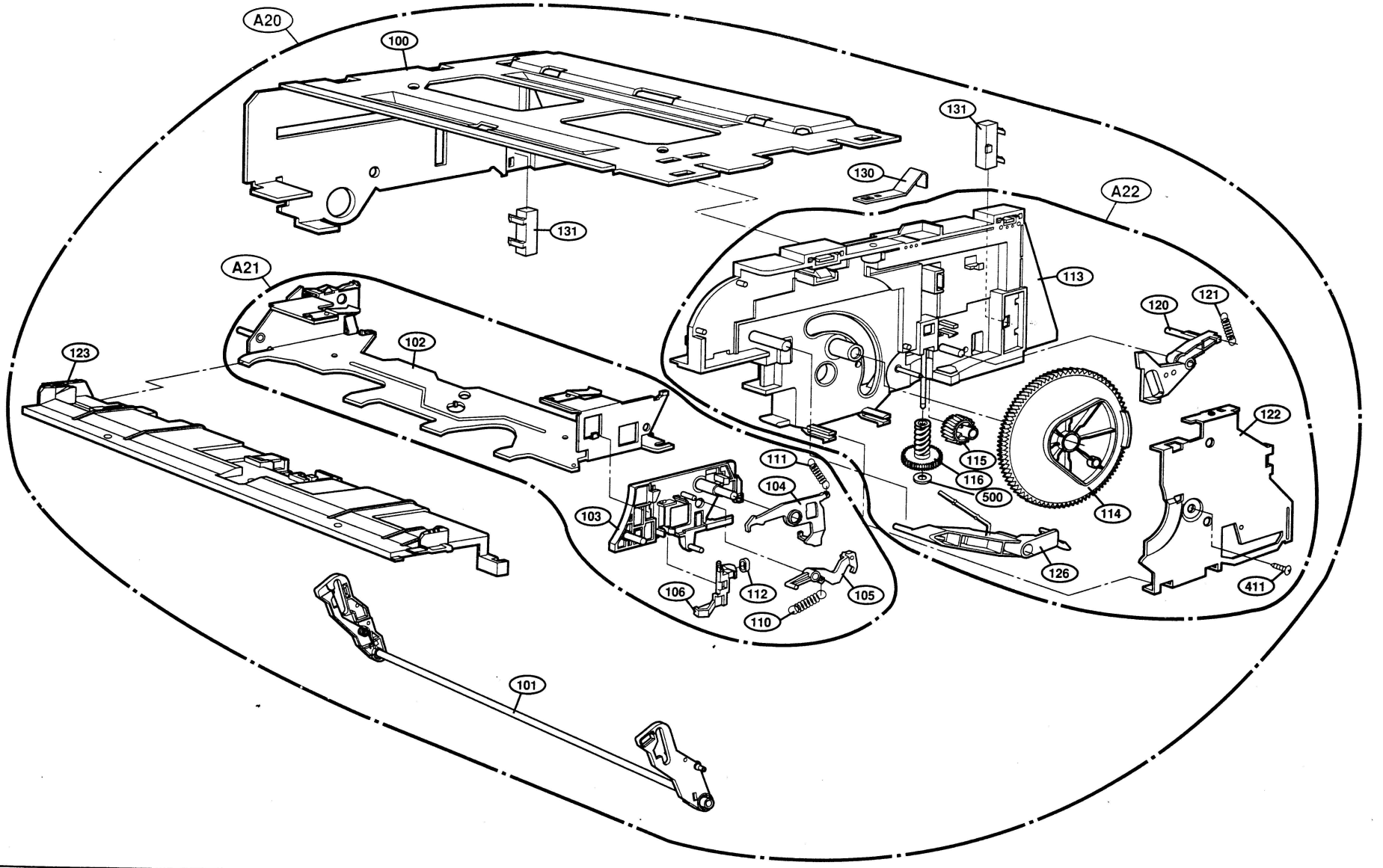


C.


Cassette will not eject.
Is the Gear H1 position correct on the deck?
YES
NO
Check the Gear H1.
Does the Capstan Motor shaft rotate?
YES
NO
Check the Capstan Motor.
Does the Lever Switch work?
YES
NO
Replace the Lever/Spring Switch.
Does the Gear Cam F/L work?
YES
NO
Check the Gear Train of Bracket Side (R).
Does the Opener Door work?
NO
Replace the Opener Door.

EXPLODED VIEW

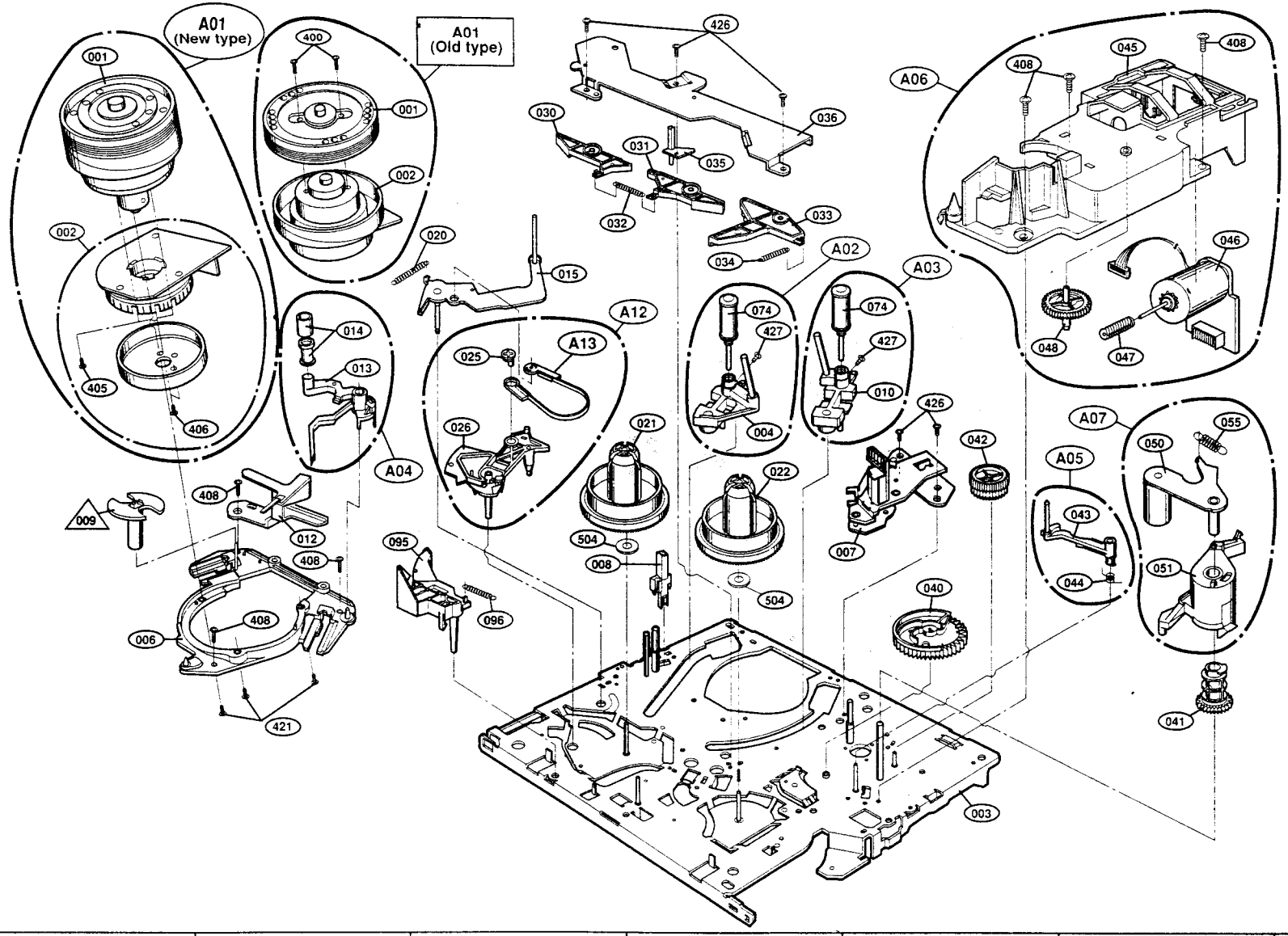
1. Front Loading Mechanism Section



EXPLODED VIEW

2. Moving Mechanism Section(1) Top View

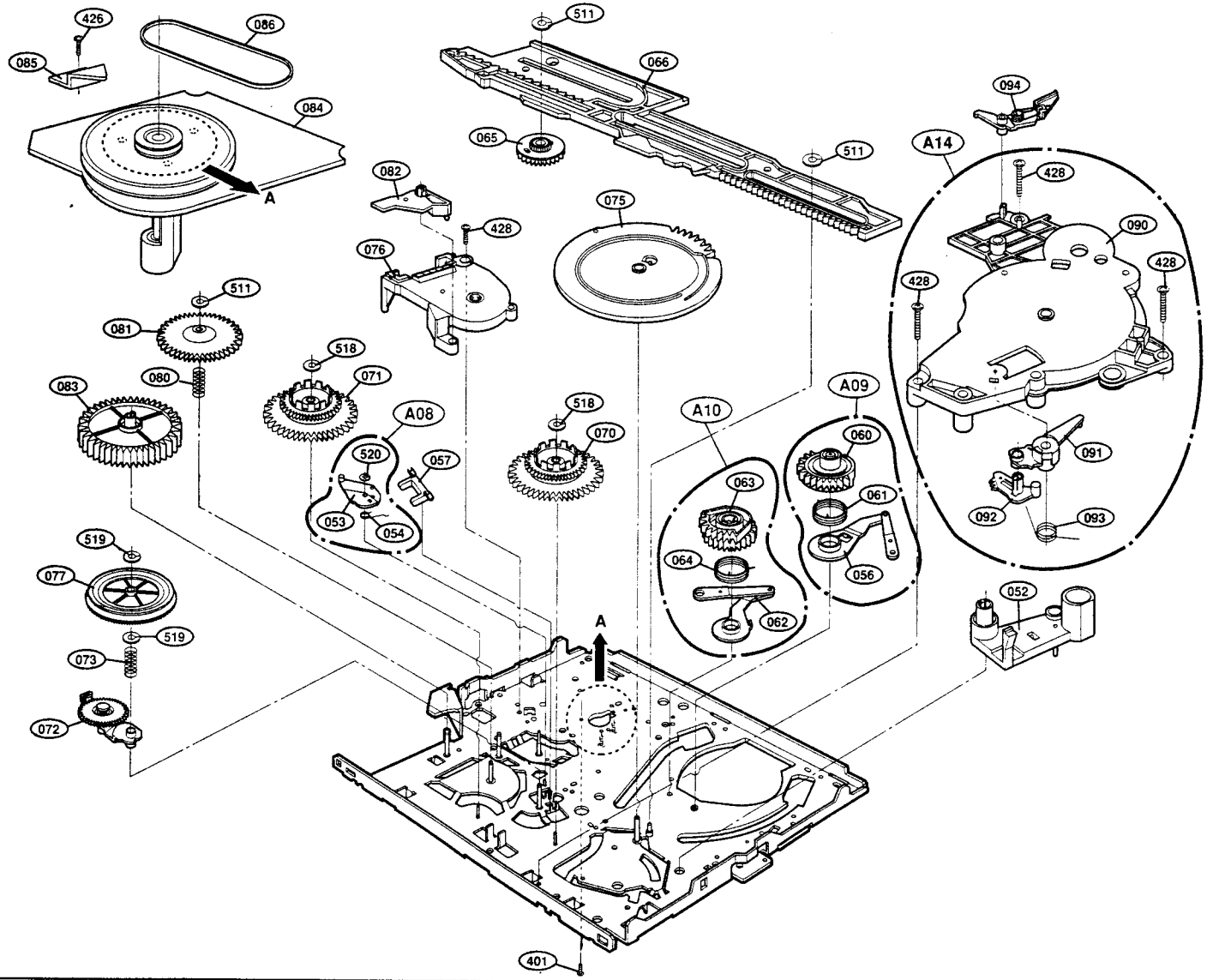
NOTES) 1) ⬭ marks the optional parts only in VCR (Video Cassette Recorder) Models.
2) △ 009 marks the optional parts only i n Hi-Fi Models.
3) (A01) New Type Drum Assembly. (No two screws and P.C.B on the Drum.)
4) [A01] Old type Drum Assembly. (there are two screws and P.C.B on the Drum.)



EXPLODED VIEW

NOTES) 1) ⬭ is the additional parts of the JOG/SHUTTLE Models.
2) (094) marks the optional parts only in VCR (Video Cassette Recorder) Models.

3. Moving Mechanism Section(2) Bottom View



MEMO

SECTION 5 REPLACEMENT PARTS LIST

• Mechanical Section

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A00	412-187A	DECK	ASSY D-27 P (4HD MONO VCR)	
	OR	A00	412N187A	DECK	V/D D-27 P (4HD MONO VCR)	
		A01	413-374A	DRUM	ASSY (D-27 P4)	
	OR	A01	413B374A	DRUM	ASSY (D-27 P4) BOKWANG	
	OR	A01	413C374A	DRUM	ASSY (D-27 P4) SAMJUNG	
		A02	225-361A	BASE	ASSY P2	
		A03	225-364A	BASE	ASSY P3	
		A04	386-394A	ARM	ASSY CLEANER	
		A05	386-405A	ARM	ASSY T/UP	
		A06	321-668A	BRACKET	ASSY L/D MOTOR	
		A07	340-070A	HOLDER	ASSY PINCH	
		A08	333-331A	LEVER	ASSY F/R	
		A09	435-435A	GEAR	ASSY P2	
		A10	435-437A	GEAR	ASSY P3	
		A12	333-329A	LEVER	ASSY TENSION	
		A13	328-075A	BAND	ASSY TENSION	NSP
		A20	219-023A	HOUSING	ASSY D-27	
		A21	340-010A	HOLDER	ASSY CST	
		A22	321-672A	BRACKET	ASSY SIDE(R)	
				PARTS SECTION		
		001	413-317B	DRUM	SUB ASSY (PAL)	
		002	414-209A	MOTOR	ASSY DRUM GVD-027A ALPS	
	OR	002	414-217A	MOTOR	ASSY DRUM E20XL14 D27 SANKYO	
		003	311-011A	CHASSIS ASSY	D27	NSP
		004	225-362A	BASE	SUB ASSY P2	NSP
		006	225-368A	BASE	DRUM	
		007	225-371A	BASE	ASSY A/C	
		010	225-365A	BASE	SUB ASSY P3	NSP
		012	225-399A	BASE	ASSY BRUSH	
		013	386-395A	ARM	CLEANER	NSP
		014	324-835B	HOLDER	ASSY CLEANER	NSP
		015	386-392A	ARM	ASSY TENSION	
		020	442-640A	SPRING	TENSION	
		021	456-070A	REEL	S27	
		022	456-071A	REEL	T27	
		025	340-008A	HOLDER	BAND(C)	NSP
		026	333-330A	LEVER	TENSION	NSP
		030	338-112A	BRAKE	ASSY SM	
		031	338-114A	BRAKE	ASSY TM	
		032	442-655A	SPRING	MB	
		033	338-116A	BRAKE	ASSY TS	
		034	442-654A	SPRING	TSB	
		035	316-019A	BODY	PRISM LED	
		036	257-071A	PLATE	UP	
		040	435-441A	GEAR	PINCH CAM	
		041	435-440A	GEAR	PINCH	
		042	435-439A	GEAR	CNT	

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		043	386-404A	ARM	SUB ASSY T/UP	
		044	442-650A	SPRING	T/UP	NSP
		045	321-669A	BRACKET	L/D MOTOR	
		046	414-199A	MOTOR	ASSY L/D	
		047	437-019A	WORM	L/D MOTOR	
		048	437-020A	WORM	WHEEL	
		050	386-401A	ARM	ASSY PINCH	
		051	340-073A	HOLDER	SUB ASSY PINCH	
		052	225-374A	BASE	TENSION	
		053	333-332A	LEVER	F/R	NSP
		054	442-645A	SPRING	F/R	NSP
		055	442-649A	SPRING	PINCH	NSP
		056	333-334A	LEVER	ASSY P2	NSP
		057	386-398A	ARM	F/R	
		060	435-436A	GEAR	P2	NSP
		061	442-647A	SPRING	P2	NSP
		062	333-336A	LEVER	ASSY P3	NSP
		063	435-438A	GEAR	P3	NSP
		064	442-648A	SPRING	P3	NSP
		065	435-442A	GEAR	P/S	
		066	257-070A	PLATE	SLIDER	
		070	337-007B	CLUTCH	ASSY S27	
		071	337-008A	CLUTCH	ASSY T27	
		072	386-396A	ARM	ASSY IDLER	
		073	442-644A	SPRING	UP/D	
		074	434-173A	ROLLER	ASSY GUIDE	
	OR	074	434-173C	ROLLER	ASSY GUIDE	
		075	435-433A	GEAR	CAM L/D	
		076	556-252B	SWITCH	MODE S/W(D-27),HMW0840-01,HOSI	
		077	435-432A	GEAR	PULLEY	
		080	442-656A	SPRING	H1	
		081	435-443A	GEAR	H1	
		082	333-339A	LEVER	H1	
		083	435-444A	GEAR	H-2	
		084	414-201A	MOTOR	GVC-027A CAPSTAN D-27 ALPS	
		085	321-696A	BRACKET	CAPSATN,D27	
		086	452-062A	BELT	CAPSTAN	
		090	321-670A	BRACKET	CAM	
		091	333-333A	LEVER	JOG	
		092	435-434A	GEAR	JOG	
		093	442-646A	SPRING	JOG	
		094	338-110A	BRAKE	ASSY CAP	
		095	333-338A	LEVER	TAB	NSP
		096	442-652A	SPRING	TAB	
		100	257-072A	PLATE	TOP	
		101	386-407A	ARM	ASSY F/L	
		102	340-011A	HOLDER	SUB ASSY CST	NSP
		103	321-671A	BRACKET	HOLDER(R)	NSP
		104	333-341A	LEVER	STOPPER(R)	NSP
		105	465-039A	OPENER	LID	NSP
		106	386-410A	ARM	RELEASE	NSP
		110	442-660A	SPRING	RELEASE	
		111	442-659A	SPRING	STOPPER	
		112	477-058A	RUBBER	GRIP	NSP
		113	321-673A	BRACKET	SUB ASSY (R)	NSP

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		114	435-445A	GEAR	CAM F/L	NSP
		115	435-446A	GEAR	CONNECT	NSP
		116	435-447A	GEAR	WORM	NSP
		120	333-342A	LEVER	SWITCH	NSP
		121	442-661A	SPRING	SWITCH	NSP
		122	257-074A	PLATE	COVER	NSP
	OR	123	384-143A	GUIDE	CST	
		123	384-151A	GUIDE	CST27	
		126	465-040A	OPENER	DOOR	NSP
		130	257-075A	PLATE	GROUND	NSP
		131	340-062A	HOLDER	ASSY PRISM	
SCREW						
		401	1MPK0261418	PAN HEAD MACHINE SCREW +,-	D 2.6 L 4.0 MSWR3/FZY	
		405	1MDC0262818	PAN HEAD MACHINE SCREW P/WASH+	D2.6 L12 MSWR3/FZY	
		406	1MEC0302018	PAN HEAD MACHINE SCREW S/W +	D 3.0 L 6.0 MSWR3/FZY	
		408	1MBC0302418	BINDING HEAD MACHINE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		411	353-046B	SCREW	SPECIAL (3X8 FZMY)	NSP
		421	1MPC0302618	PAN HEAD MACHINE SCREW +!	D3.0 L10.0,MSWR3/FZY	
		426	1MPC0302018	PAN HEAD MACHINE SCREW +!	D 3.0 L 6.0 MSWR3/FZY	
		427	353-054B	SCREW	MINIATURE	
		428	353-221A	SCREW	M3-L15	
NUT, WASHER						
		500	354-080F	WASHER	STOPPER	
		504	354-001B	WASHER	P.S D3.1XD6X0.5T	
		511	354-080C	WASHER	STOPPER D2.6XD5X0.5T	
		518	354-128A	WASHER	STOPPER D1.7XD4.5X0.5T	
		519	354-128B	WASHER	STOPPER D2.5XD9X0.5T	

· Cabinet & Main Frame Section

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
ASSEMBLY PARTS SECTION						
		A43	258-799K	PANEL	ASSY FRONT	
		A44	3501R-0278T	BOARD ASSY	SMPS	
		A45	501-520E	MODULE	PRE-AMP	
		A46	3501R-0499C	BOARD ASSY	MAIN	
PARTS SECTION						
		250	217-570C	CASE	TOP	
		260	315-347B	FRAME	MAIN(60HR)	NSP
		265	324-995A	HOLDER	PWB	
		266	321-738A	BRACKET	ASSY HOUSING	
		267	255-429A	PLATE	GND(M/F)	
		268	255-359A	PLATE	SIDE GND	
		269	255-362A	PLATE	PRE-AMP GND	
		270	321-743A	BRACKET	PROTECT	

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		275	340-086A	HOLDER	DIGITRON(R-P40P'S)	NSP
		280	258-807E	PANEL	FRONT	
		283	226-100Z	DOOR	CST	
		284	442-681A	SPRING	DOOR	
		300	681-054A	CORD	KKP-419C(PAL) TERMINAL TYPE	
	OR	300	681-254A	CORD	EP-11 LTFE-2F (PAL) TERMINAL	
		320	258-728J	PANEL	ASSY DISTRIBUTOR	
		330	220-050A	COVER	BOTTOM	
SCREW						
		452	353-051A	SCREW	SPECIAL(3X10 FZMY)	
		462	353-136A	SCREW	SPECIAL(4.6X12.5 FBK)	
		469	353-046K	SCREW	SPECIAL (3X10 B.K)	

· Packing Accessory Section

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		801	480-661K	INSTRUCTION ASSY		NSP
		802	290-426K	BOX CARTON		
		803	283-292A	PACKING		
		804	291-002B	SHEET CUSHION		
		808	534-008C	BATTERY	AAAM(R03) 1.5V	
		810	861-505B	CABLE SET ASSY	RF-CABLE,ASSY,PAL	

· Remote Control Section

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		900	597-125Y	REMOTE CONTROL	ASSY	
		901	255-409T	PLATE	TOP(P43HW)	
		902	217-611A	CASE	TOP (M3 R/C)	
		903	556-270A	SWITCH	RUBBER-A (M3)	
		904	556-271Q	SWITCH	RUBBER-B(M3)	
		905	6871R-0406A	PWB ASSY!	M3 R/C NORMAL	
		906	220-136A	COVER	BOTTOM (M3)	
		907	236-585A	WINDOW	FILTER (M3)	
		908	220-137A	COVER	BATTERY (M3)	
		909	442-729A	SPRING	BATTERY-A	
		910	1TPH0202016	PAN HEAD TAPPING SCREW + 2	D 2.0 L 6.0 MSWR3/(BK)	

· Fixture Section

RUN DATE : 95.10.05
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		FIX	960-031E	FIXTURE	SVC FIXTURE	
		FIX1	6871R-0288A	PWB ASSY!	D-27 JIG	
		FIX2	6871R-0288B	PWB ASSY!	D-27 JIG	
		FIX3	6871R-0288C	PWB ASSY!	D-27 JIG	
		FIX4	6871R-0288D	PWB ASSY!	D-27 JIG	
		FIX5	6871R-0288E	PWB ASSY!	D-27 JIG	
		FIX6	322-065A	SUPPORTER	DECK SVC	
		FIX7	6871R-0288J	PWB ASSY~	D-27 FIXTURE	

· Electrical Section

RUN DATE : 95.10.05

CAUTION: The * marks in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the SAFETY PRECAUTIONS and SERVICING PRECAUTIONS in the manual. Do not degrade the safety of the unit through improper servicing.

Tolerance

Symbol	C	J	K	M	N	Z	P	A
%	±2	±5	±10	±20	±30	+80 -20	+100 -10	+100 -10

CC, CJ, CK: Capacitor, Ceramic
CE: Capacitor, Electrolytic
CQ: Capacitor, Polyester

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		CAPACITOR		
		C303	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C305	0CH4121K416	120P 50V J NP0 2.0X1.2 R/TP
		C306	0CH1473K946	0.047U 50V Z F 2.0X1.2 R/TP
		C307	0CH1473K946	0.047U 50V Z F 2.0X1.2 R/TP
		C308	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C309	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C310	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C311	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C312	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C313	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C314	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C315	0CH1473K946	0.047U 50V Z F 2.0X1.2 R/TP
		C317	0CH4220K416	22P 50V J NP0 2.0X1.25 R/TP
		C318	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C319	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C320	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C321	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C322	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C323	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C324	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C326	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C327	0CH1104K946	0.1U 50V Z F 2.0X1.2 R/TP
		C328	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C329	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C330	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C331	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C332	0CH4331K416	330P 50V J NP0 2.0X1.2 R/TP
		C333	0CH4050K016	5P 50V C COG 2.0X1.2 R/TP
		C335	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C337	0CH4680K416	68P 50V J COG 2.0X1.2 R/TP
		C338	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C340	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C341	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C342	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C343	0CH4680K416	68P 50V J COG 2.0X1.2 R/TP
		C355	0CH4390K416	39P 50V J COG 2.0X1.2 R/TP
		C360	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C363	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C364	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C365	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C366	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C367	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C368	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C369	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C370	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C371	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C372	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C373	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C374	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C375	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C376	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C378	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C379	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C380	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C381	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C382	0CH4470K416	47P 50V J NP0 2.0X1.25 R/TP
		C383	0CH4270K416	27P 50V J COG 2.0X1.2 R/TP
		C385	0CH4680K416	68P 50V J COG 2.0X1.2 R/TP
		C386	0CH4680K416	68P 50V J COG 2.0X1.2 R/TP
		C387	0CH4270K416	27P 50V J COG 2.0X1.2 R/TP
		C388	0CH4330K416	33P 50V J C 2.0X1.2 R/TP
		C391	0CH4220K416	22P 50V J NP0 2.0X1.25 R/TP
		C392	0CH4470K416	47P 50V J NP0 2.0X1.25 R/TP
		C393	0CH4271K416	270P 50V J COG 2.0X1.2 R/TP
		C394	0CH4330K416	33P 50V J C 2.0X1.2 R/TP
		C395	0CH4151K416	150P 50V J NP0 2.0X1.2 R/TP
		C396	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C398	0CH4181K416	180P 50V J NP0 2.0*1.25 R/TP
		C399	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C3A2	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C3A3	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3A4	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C3A5	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C3A6	0CH1104K946	0.1U 50V Z F 2.0X1.2 R/TP
		C3A8	0CH4331K416	330P 50V J NP0 2.0X1.2 R/TP
		C3A9	0CH1223K946	0.022U 50V Z F 2.0X1.25 R/TP
		C3B2	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C3D1	0CH1104K946	0.1U 50V Z F 2.0X1.2 R/TP
		C3D2	0CH4241K416	240PF 50V J NP0 2012 R/TP
		C3D3	0CH4471K416	470P 50V J 2.0*1.25 R/TP
		C3D5	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C3D6	0CE1063F636	10UF SRE 16V M FM5 BP(D) TP
		C3D8	0CH4151K416	150P 50V J NP0 2.0X1.2 R/TP
		C3D9	0CH1102K516	1000P 50V K B 2.0X1.25 R/TP
		C3N1	0CH1104K946	0.1U 50V Z F 2.0X1.2 R/TP
		C3P1	0CH1103K516	0.01U 50V K B 2.0X1.25 R/TP
		C401	0CQ8221N409	0.0082U 100V J POLY TP
		C402	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C403	0CE1046K638	0.1M SMS 50V M FM5 TP(5)
		C404	0CE1066F638	10UF SMS 16V M FM5 TP5
		C405	0CE1046K638	0.1M SMS 50V M FM5 TP(5)
		C406	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C407	0CQ1032K409	0.01UF S 50V J PE TP
		C408	0CQ1032K409	0.01UF S 50V J PE TP
		C409	0CQ6832K409	0.0680UF S 50V J PE TP
		C410	0CN2210K518	220P 50V K B TA26
		C411	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C412	0CN1030F678	0.01M 16V M Y TA26
		C413	0CQ1831N409	0.018U 100V J POLY TP
		C414	0CE2266F638	22M SMS 16V M FM5 TP5
		C415	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C416	0CQ1521N409	0.0015U 100V J POLY TP
		C417	0CQ4721N409	0.0047U 100V J POLY TP
		C418	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C419	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C421	0CE1046K638	0.1M SMS 50V M FM5 TP(5)
		C422	0CN1020K518	1000P 50V K B TA26
		C500	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C501	624-074A	SUPER CAP 0.047F/5.5V T/P S/S
		C502	0CE4763F638	47M SRE 16V M FM5 TP(5)
		C503	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C504	0CN1030F678	0.01M 16V M Y TA26
		C505	0CE4766F638	47M SMS 16V M FM5 TP5
		C506	0CQ4711N449	470PF 100V J PP TP
		C507	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C508	0CN1040K948	0.1M 50V Z F TA26
		C509	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C510	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C511	0CC0800K015	8P 50V C NP0 TS
		C512	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C513	0CN1040K948	0.1M 50V Z F TA26
		C514	0CC1500K415	15P 50V J NP0 TS
		C515	0CC1500K415	15P 50V J NP0 TS
		C516	0CC1200K415	12P 50V J NP0 TS
		C517	0CC1000K015	10P 50V C NP0 TS
		C518	0CC3300K415	33P 50V J NP0 TP
		C519	0CC3300K415	33P 50V J NP0 TP
		C520	0CN2230H948	0.022M 25V Z F TA26
		C521	0CX3900K408	39P 50V J SL TA26
		C522	0CE4766F638	47M SMS 16V M FM5 TP5
		C523	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C524	0CN1040K948	0.1M 50V Z F TA26
		C526	0CN2710K518	270P 50V K B TA26
		C528	0CN1030F678	0.01M 16V M Y TA26
		C529	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C530	0CE4766F638	47M SMS 16V M FM5 TP5
		C531	0CC0800K015	8P 50V C NP0 TS
		C533	0CN1030F678	0.01M 16V M Y TA26
		C534	0CN1510K518	150P 50V K B TA26
		C535	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C536	0CN1040K948	0.1M 50V Z F TA26
		C537	0CN1040K948	0.1M 50V Z F TA26
		C538	0CN1030F678	0.01M 16V M Y TA26
		C539	0CN1030F678	0.01M 16V M Y TA26
		C540	0CE1044K638	0.1M SRA 50V M FM5 TP(5)
		C541	0CN1030F678	0.01M 16V M Y TA26
		C542	0CN1040K948	0.1M 50V Z F TA26
		C544	0CN4730K948	0.047M 50V Z F TA26
		C545	0CN1040K948	0.1M 50V Z F TA26
		C546	0CN2230H948	0.022M 25V Z F TA26
		C547	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C549	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C550	0CN1030F678	0.01M 16V M Y TA26
		C551	0CQ3331N409	0.033U 100V J POLY TP
		C552	0CN1030F678	0.01M 16V M Y TA26
		C553	0CN1040K948	0.1M 50V Z F TA26
		C554	0CN1030F678	0.01M 16V M Y TA26
		C555	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C556	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C557	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C558	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C559	0CE4766F638	47M SMS 16V M FM5 TP5
		C560	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C561	0CE4776F638	470UF SMS 16V M FM5 TP5
		C562	0CN1040K948	0.1M 50V Z F TA26
		C564	0CN1040K948	0.1M 50V Z F TA26
		C566	0CN1040K948	0.1M 50V Z F TA26
		C567	0CN1040K948	0.1M 50V Z F TA26
		C568	0CN1040K948	0.1M 50V Z F TA26
		C569	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C570	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C571	0CN1040K948	0.1M 50V Z F TA26
		C572	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C573	0CN1040K948	0.1M 50V Z F TA26
		C574	0CE2253K636	2.2000UF SRE 50V M FM5 BP(D) T
		C577	0CN1040K948	0.1M 50V Z F TA26
		C580	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C582	0CN1030F678	0.01M 16V M Y TA26
		C590	0CN1030F678	0.01M 16V M Y TA26
		C592	0CN1040K948	0.1M 50V Z F TA26
		C593	0CN2210K518	220P 50V K B TA26
		C594	0CN1040K948	0.1M 50V Z F TA26
		C595	0CN1040K948	0.1M 50V Z F TA26
		C596	0CN1040K948	0.1M 50V Z F TA26
		C597	0CN1040K948	0.1M 50V Z F TA26
		C5X3	0CN2230H948	0.022M 25V Z F TA26
		C601	0CN1040K948	0.1M 50V Z F TA26
		C602	0CN1040K948	0.1M 50V Z F TA26
		C603	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C604	0CN1040K948	0.1M 50V Z F TA26
		C605	0CQ1022K409	1000PF S 50V J PE TP
		C606	0CN1040K948	0.1M 50V Z F TA26
		C607	0CN1020K518	1000P 50V K B TA26
		C608	0CN1030F678	0.01M 16V M Y TA26
		C6D1	0CN3310K518	330P 50V K B TA26
		C701	0CN1030F678	0.01M 16V M Y TA26
		C702	0CE4766F638	47M SMS 16V M FM5 TP5
		C703	0CN1030F678	0.01M 16V M Y TA26
		C704	0CE4766F638	47M SMS 16V M FM5 TP5
		C705	0CQ3321N409	0.0033U 100V J POLY TP
		C706	0CQ1041N409	0.1U 100V J POLY TP
		C707	0CQ1041N409	0.1U 100V J POLY TP
		C708	0CQ1041N409	0.1U 100V J POLY TP
		C709	0CN1040K948	0.1M 50V Z F TA26
		C710	0CE4756K638	4.7M SMS 50V M FM5 TP(5)
		C711	0CE4766F638	47M SMS 16V M FM5 TP5
		C712	0CN1030F678	0.01M 16V M Y TA26
		C714	0CN1030F678	0.01M 16V M Y TA26
		C715	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C716	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C717	0CE1066F638	10UF SMS 16V M FM5 TP5
		C721	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)

RUN DATE : 95.10.05

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C722	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C723	0CN1030F678	0.01M 16V M Y TA26
		C750	0CN1030F678	0.01M 16V M Y TA26
		C751	0CN1030F678	0.01M 16V M Y TA26
		C752	0CN1030F678	0.01M 16V M Y TA26
		C753	0CE4766F638	47M SMS 16V M FM5 TP5
		C754	0CN1030F678	0.01M 16V M Y TA26
		C755	0CE4766F638	47M SMS 16V M FM5 TP5
		C756	0CN1030F678	0.01M 16V M Y TA26
		C757	0CN4710K518	470P 50V K B TA26
		C758	0CN2230H948	0.022M 25V Z F TA26
		C759	0CQ1041N409	0.1U 100V J POLY TP
		C760	0CX2200K408	22P 50V J SL TP26
		C761	0CQ1031N409	0.01UF 100V J PE TP
		C762	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C763	0CX4700K408	47P 50V J SL TA26
		C764	0CX3300K408	33P 50V J SL TA26
		C765	0CC0800K165	8PF 50V D N470 TR
		C766	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C767	0CE1056K638	1.0M SMS 50V M FM5 TP(5)
		C768	0CQ1041N409	0.1U 100V J POLY TP
		C769	0CE4766F638	47M SMS 16V M FM5 TP5
		C770	0CN1030F678	0.01M 16V M Y TA26
		C791	0CX5600K408	56P 50V J SL TA26
		C901	0CQ4731N409	0.047U 100V J POLY TP
		C902	0CQ4731N409	0.047U 100V J POLY TP
		C903	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C905	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C906	0CN1030F678	0.01M 16V M Y TA26
		C910	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C911	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C913	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C914	0CN1030F678	0.01M 16V M Y TA26
		C924	0CX3900K408	39P 50V J SL TA26
		C925	0CN1020K518	1000P 50V K B TA26
		C926	0CN2210K518	220P 50V K B TA26
		C930	0CE4775C638	470M SR 6.3V M FM5 TP(5)
		C932	0CN1030F678	0.01M 16V M Y TA26
		C933	0CN1030F678	0.01M 16V M Y TA26
		C940	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C941	0CE1064F638	10M SRA 16V M FM5 TP(5)
		CP01	624-066C	AC CON 332 /400V,E,AA(S/S)
	OR	CP03	624-088C	R40KN31000001M 0.1UF/275V ARCO
		CP03	624-088D	XG275M104VS11,0.1UF/275V TEAPO
		CP05	624-066C	AC CON 332 /400V,E,AA(S/S)
		CP06	624-082F	CE 68UF/400V SHLVN
		CP07	0CQ1041N409	0.1U 100V J POLY TP
		CP09	0CQ5621N409	0.0056U 100V J POLY TP
		CP10	0CQ1021N409	0.001U 100V J POLY TP
		CP11	0CE336BH638	33UF KME 25V M FM5 TP5
		CP12	0CQ4731N409	0.047U 100V J POLY TP
		CP14	624-087B	HIGH-VOL 100P/1KV SMPS SAMHWA
		CP15	0CQ1031Y501	0.01U 630V K POLY F5
		CP16	0CE4746K638	0.47M SMS 50V M TP(5)
	OR	CP17	624-084C	HER-0611-47-50-M SMPS RI-C
		CP17	624-085D	CE 47UF/50V KME (SMPS)
		CP18	0CE4776H638	470UF SMS 25V M FM5 TP5
	OR	CP19	624-083E	1000/10V KME (SMPS) CE
		CP19	624-084N	HER-1016-1000-10-M SMPS RI-C
		CP20	0CE3376D638	330UF SMS 10V M FM5 TP5
	OR	CP21	624-084C	HER-0611-47-50-M SMPS RI-C
		CP21	624-085D	CE 47UF/50V KME (SMPS)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
	OR	CP22	0CE477BH638	470UF KME 25V M FM5 TP5
		CP22	624-076A	CE 470UF/25V KMG(10*12.5)T/P
		CP24	624-066E	AC CON 472/400V,E,AA(S/S)
		CP25	0CE1076D638	100M SMS 10V M FM5 TP(5)
		CP26	624-066E	AC CON 472/400V,E,AA(S/S)
		CP28	624-086B	AC-CON 103/400V,Z,NU(N/K)

DIODE

	OR	BDP01	0DD060000BA	DF06M,600V,1A G.I
		BDP01	0DD160000DA	S1WBA60(1A 600V) SHIDENKEN
		D301	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D303	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D304	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D305	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D307	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D309	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D315	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D316	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D320	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D325	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D401	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D402	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D403	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D404	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D405	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D500	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D501	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D502	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D503	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D504	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D505	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D506	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D507	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D509	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D511	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D512	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D513	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D514	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D515	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D601	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D602	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D609	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D615	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D704	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D901	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D905	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		DP01	0DD010009CA	EG01CW(R-FORM 5MM) TP SANKEN
	OR	DP01	0DD400709BA	UF4007 G.I
		DP02	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		DP05	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		DP07	0DD207000AA	2A07 2A RECTIFIERS(T/S)DELTA
		DP08	0DD310409AA	31DQ04 52MM TP TP INTA
	OR	DP08	0DD440000AA	RK-44(SCHTOKY) SANKEN
		DP10	0DD010009AC	EU01W(R-FORM) TP SANKEN
		DP12	0DD010009AC	EU01W(R-FORM) TP SANKEN
		DP13	0DD400000AH	RU4YX SANKEN
		DP17	0DD010009AC	EU01W(R-FORM) TP SANKEN

DISPLAY TUBE

		DG601	514-040A	BJ366GK SEJIN

MODEL:P43HW ACT1

RUN DATE : 95.10.05

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION

FUSE

		FP01	585-011C	T 1.6A 250V S506

FILTER

		LP01	616-145A	LINE FILTER SQE TYPE 33MH(BUJ)
		Z750	616-646A	K2955M BG/DK SIEMENS SAW
		Z751	616-038B	CERAMIC,SFSH5.5MCB MURATA
		Z752	616-036B	TRAP TPS5.5MB MURA
		Z753	616-321A	CERAMIC SFSH6.5MCB MURATA
		Z754	616-341A	CERAMIC TPS6.5MB

IC

		IC301	0ISA743700A	LA7437 (Y/C 1CHIP,NOT ADJ)
		IC302	0ISA741700A	LA7417(PRE-AMP,4HD)
		IC304	0ISA899700A	LC89970 (1H CCD) OC3600
		IC305	0ISA735600A	LA7356 DETECT
		IC401	0IRH779700A	BA7797 N/AUDIO
		IC501	0IHI643397M	HD6433976A35F R-P40W(2ND)
		IC502	0IGS744500A	GL7445 (MOTOR DRIV-1CH) GSS
	OR	IC502	0IRH620930A	BA6209V3 MOTOR DRIVE
	OR	IC503	0INA241600A	NM24C16N(EEPROM.16K) OC3600
		IC503	0IXI241600B	X24C16P EEPROM 16K DIP
		IC504	0IMT523000B	PST-523G/T(3.3V) LOW
		IC505	0IGS358000A	GL358
		IC506	0IMT523000C	PST-523D/T
	OR	IC601	0IRH287600A	BU2876K FLD
		IC601	0IRH287900A	BU2879K FDP DRIVE
		IC701	0ISA791000A	LA7910 TV BAND SELEC
		IC750	0IPH9800000A	TDA9800 VIF PLL DEM & FM DET
		IC902	0ISM564900A	SDA5649 (VPS+PDC)
		IC903	0IGS381600A	GL3816
		ICP01	0IFE531100A	FA5311P PWM IC (FUJI) DIP
		ICP03	0IKE431000A	KIA431
		ZD702	0IKE574000B	KIA574AT ZENOR IC 2K/TP

COIL

		B901	0LA0560K018	0.56M K 2.3X3.4 L5 TP
		L302	0LR1000J025	100UH 5% 4X5 TR5
		L303	0LA1000K018	100M K 2.3X3.4 L5 TP
		L304	0LR1000J025	100UH 5% 4X5 TR5
		L309	0LR1000J025	100UH 5% 4X5 TR5
		L310	0LA0561K018	5.6M K 2.3X3.4 L5 TP
		L311	0LA0392K018	39M K 2.3X3.4 L5 TP
		L312	0LA1500K018	150M K 2.3X3.4 L5 TP
		L315	0LA0272K018	27M K 2.3X3.4 L5 TP
		L350	0LA0821K018	8.2M K 2.3X3.4 L5 TP
		L353	0LA0152K018	15M K 2.3X3.4 L5 TP
		L354	0LA1000K018	100M K 2.3X3.4 L5 TP
		L355	0LA0152K018	15M K 2.3X3.4 L5 TP
		L356	0LA0152K018	15M K 2.3X3.4 L5 TP
		L358	0LA0222K018	22M K 2.3X3.4 L5 TP
		L359	0LA0332K018	33M K 2.3X3.4 L5 TP
		L361	0LR1000J025	100UH 5% 4X5 TR5
		L370	0LR1000J025	100UH 5% 4X5 TR5
		L371	0LA0822K018	82M K 2.3X3.4 L5 TP
		L372	0LA2700K018	270U K 2.3X3.4 L5 TP
		L401	0LR1000K035	100M K 6X6 L5 TP
		L402	0LR6801J045	6800U J 6X7 L5 TP
		L403	0LA0102K018	10M K 2.3X3.4 L5 TP

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		L501	0LR1000K035	100M K 6X6 L5 TP
		L505	0LR1000K035	100M K 6X6 L5 TP
		L506	0LR0152J025	15UH 5% 4X5 TR5
		L508	0LR1000K035	100M K 6X6 L5 TP
		L510	0LA0332K018	33M K 2.3X3.4 L5 TP
		L512	0LR1000K035	100M K 6X6 L5 TP
		L513	0LR1000K035	100M K 6X6 L5 TP
		L514	0LR1000K035	100M K 6X6 L5 TP
		L515	0LR1000K035	100M K 6X6 L5 TP
		L516	0LR0222K035	22M K 6X6 L5 TP
		L601	0LR1000K035	100M K 6X6 L5 TP
		L701	0LR1000K035	100M K 6X6 L5 TP
		L702	0LR1000K035	100M K 6X6 L5 TP
		L703	0LR1000K035	100M K 6X6 L5 TP
		L704	0LA0222K018	22M K 2.3X3.4 L5 TP
		L750	0LA0121K018	1.2M K 2.3X3.4 L5 TP
		L751	0LR1000K035	100M K 6X6 L5 TP
		L752	0LA0332K018	33M K 2.3X3.4 L5 TP
		L753	0LA0152K018	15M K 2.3X3.4 L5 TP
		L754	0LA0102K018	10M K 2.3X3.4 L5 TP
		L755	0LR1000K035	100M K 6X6 L5 TP
		L756	0LR1000K035	100M K 6X6 L5 TP
		L759	0LR0122K035	12M K 6X6 L5 TP
		L901	0LR1000K035	100M K 6X6 L5 TP
		L902	0LR1000K035	100M K 6X6 L5 TP
		L903	0LA1000K018	100M K 2.3X3.4 L5 TP
		L904	0LA1000K018	100M K 2.3X3.4 L5 TP
		L905	0LA1000K018	100M K 2.3X3.4 L5 TP
		L909	0LR6801J045	6800U J 6X7 L5 TP
	OR	LP03	633-088A	SC-20M CHOKE,COIL
		LP03	633-088D	CHOCK ,20UH,LEAD CUT
	OR	LP04	633-088A	SC-20M CHOKE,COIL
		LP04	633-088D	CHOCK ,20UH,LEAD CUT
		T401	633-032F	BIAS 126QN-K5171YA0-KR-K TOKO
		T750	633-085A	V-COIL 2920N-K5592Z 77.8 TOKO

LED

		LED501	0DL380009AA	GL380JTP IR LED D-27 TP SHARP

CIRCUIT BOARD ASSEMBLY

		PBI00	6871R-0265H	IF
		PBJ00	6871R-0266D	JACK 1SCART
		PBM00	6871R-0499A	
		PBT00	6871R-0424Z	TIMER(WIDE DIGITRON)

TRANSFORMER

		PTP01	642-023A	S/W TRANS EER2828(V-95,P-2000)

TRANSISTOR

		FEP01	0TF903000AA	2SK903M(FET) FUJI
		Q303	0TR319909AF	KTC3199-BL MINI TP KEC
		Q307	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q308	0TR319909AF	KTC3199-BL MINI TP KEC
		Q309	0TR319909AF	KTC3199-BL MINI TP KEC
		Q310	0TR126709AC	KTA1267-GR MINI TP KEC
		Q311	0TR319909AF	KTC3199-BL MINI TP KEC
		Q312	0TR319909AF	KTC3199-BL MINI TP KEC
		Q315	0TR126709AC	KTA1267-GR MINI TP KEC
		Q401	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q402	0TR103009AF	KRA103M-TP (KRA2203) KEC

RUN DATE : 95.10.05

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		Q403	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q404	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q405	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q406	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q407	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q408	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q501	0TR141409AB	KTD1414-B CUTING TP KEC
		Q502	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q503	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q504	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q506	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q507	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q508	0TR126709AC	KTA1267-GR MINI TP KEC
		Q509	0TR126709AC	KTA1267-GR MINI TP KEC
		Q510	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q511	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q513	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q514	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q515	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q522	0TR127309AA	KTA1273-TP-Y (KTA966A)KEC
		Q523	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q524	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q525	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q526	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q529	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q530	0TR126709AC	KTA1267-GR MINI TP KEC
		Q701	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q702	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q703	0TR126709AC	KTA1267-GR MINI TP KEC
		Q704	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q750	0TR319709AC	KTC3197 (KTC388A) TP KEC
		Q751	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q901	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q902	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q903	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q904	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q905	0TR319909AE	KTC3199-GR MINI TP KEC

RESISTOR

		R301	0RH1201D622	1.2K 1/10W 5 D.R/TP
		R302	0RH1201D622	1.2K 1/10W 5 D.R/TP
		R303	0RH4702D622	47K 1/10W 5 D.R/TP
		R305	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R306	0RH8201D622	8.2K 1/10W 5 D.R/TP
		R308	0RH2201D622	2.2K 1/10W 5 D.R/TP
		R309	0RH2701D622	2.7K 1/10W 5 D.R/TP
		R310	0RH6800D622	680 1/10W 5 D.R/TP
		R311	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R315	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R316	0RH1501D622	1.5K 1/10W 5 D.R/TP
		R317	0RH5602D622	56K 1/10W 5 D.R/TP
		R318	0RH2202D622	22K 1/10W 5 D.R/TP
		R320	0RH8202D622	82K 1/10W 5 D.R/TP
		R321	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R331	0RH2202D622	22K 1/10W 5 D.R/TP
		R332	0RH2202D622	22K 1/10W 5 D.R/TP
		R333	0RH2701D622	2.7K 1/10W 5 D.R/TP
		R334	0RH1202D622	12K 1/10W 5 D.R/TP
		R335	0RH3302D622	33K 1/10W 5 D.R/TP
		R336	0RH5600D622	560 1/10W 5 D.R/TP
		R337	*0RH1801D622*	*1.8K 1/10W 5 D.R/TP*
		R338	0RH1802D622	18K 1/10W 5 D.R/TP

RUN DATE : 95.10.05

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R339	0RH3300D622	330 1/10W 5 D.R/TP
		R340	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R341	0RH2700D622	270 1/10W 5 D.R/TP
		R342	0RH6800D622	680 1/10W 5 D.R/TP
		R343	0RH4700D622	470 1/10W 5 D.R/TP
		R344	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R345	0RH5600D622	560 1/10W 5 D.R/TP
		R347	0RH1201D622	1.2K 1/10W 5 D.R/TP
		R348	0RH4700D622	470 1/10W 5 D.R/TP
		R349	0RH5600D622	560 1/10W 5 D.R/TP
		R350	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R351	0RH4700D622	470 1/10W 5 D.R/TP
		R353	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R354	0RH2201D622	2.2K 1/10W 5 D.R/TP
		R356	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R357	0RH3900D622	390 1/10W 5 D.R/TP
		R358	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R359	0RH2201D622	2.2K 1/10W 5 D.R/TP
		R360	0RH2201D622	2.2K 1/10W 5 D.R/TP
		R361	0RH8200D622	820 1/10W 5 D.R/TP
		R362	0RH1800D622	180 1/10W 5 D.R/TP
		R370	0RH2201D622	2.2K 1/10W 5 D.R/TP
		R377	0RH1802D622	18K 1/10W 5 D.R/TP
		R378	0RH1501D622	1.5K 1/10W 5 D.R/TP
		R3A1	0RH1001D622	1.0K 1/10W 5 D.R/TP
		R3A2	0RH0000D622	0 1/10W 5 D.R/TP
		R3A4	0RH0000D622	0 1/10W 5 D.R/TP
		R3A5	0RH0000D622	0 1/10W 5 D.R/TP
		R3A6	0RH0000D622	0 1/10W 5 D.R/TP
		R3A9	0RH5600D622	560 1/10W 5 D.R/TP
		R3B3	0RH0000D622	0 1/10W 5 D.R/TP
		R3P1	0RH0000D622	0 1/10W 5 D.R/TP
		R401	0RD1002F608	10K 1/6W 5 TA26
		R402	0RD3303F608	330K 1/6W 5 TA26
		R403	0RD1502F608	15K 1/6W 5 TA26
		R404	0RD1500F608	150 1/6W 5 TA26
		R405	0RD1004F608	1.0M 1/6W 5 TA26
		R406	0RD1002F608	10K 1/6W 5 TA26
		R407	0RD4701F608	4.7K 1/6W 5 TA26
		R408	0RD0681F608	6.8 1/6W 5 TA26
		R409	0RD0472F608	47 1/6W 5 TA26
		R410	0RD4702F608	47K 1/6W 5 TA26
		R411	0RD1501F608	1.5K 1/6W 5 TA26
		R412	0RD1201F608	1.2K 1/6W 5 TA26
		R413	0RD1802F608	18K 1/6W 5 TA26
		R414	0RD2702F608	27K 1/6W 5 TA26
		R415	0RD3302F608	33K 1/6W 5 TA26
		R416	0RD0102F608	10 1/6W 5 TA26
		R417	0RD8201F608	8.2K 1/6W 5 TA26
		R418	0RD1502F608	15K 1/6W 5 TA26
		R419	0RD1000F608	100 1/6W 5 TA26
		R420	0RD3302F608	33K 1/6W 5 TA26
		R421	0RD1002F608	10K 1/6W 5 TA26
		R423	0RD3302F608	33K 1/6W 5 TA26
		R424	0RD1002F608	10K 1/6W 5 TA26
		R425	0RD3301F608	3.3K 1/6W 5 TA26
		R426	0RD4701F608	4.7K 1/6W 5 TA26
		R427	0RD4701F608	4.7K 1/6W 5 TA26
		R428	0RD1002F608	10K 1/6W 5 TA26
		R429	0RD3301F608	3.3K 1/6W 5 TA26
		R430	0RD3902F608	39K 1/6W 5 TA26
		R431	0RD1802F608	18K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R432	0RD1502F608	15K 1/6W 5 TA26
		R433	0RD1002F608	10K 1/6W 5 TA26
		R434	0RD1202F608	12K 1/6W 5 TA26
		R500	0RD4701F608	4.7K 1/6W 5 TA26
		R501	0RD4701F608	4.7K 1/6W 5 TA26
		R502	0RD6801F608	6.8K 1/6W 5 TA26
		R503	0RD1002F608	10K 1/6W 5 TA26
		R504	0RD0681F608	6.8 1/6W 5 TA26
		R505	0RD1001F608	1.0K 1/6W 5 TA26
		R506	0RD4701F608	4.7K 1/6W 5 TA26
		R507	0RD4701F608	4.7K 1/6W 5 TA26
		R508	0RD4701F608	4.7K 1/6W 5 TA26
		R509	0RD4701F608	4.7K 1/6W 5 TA26
		R510	0RD4701F608	4.7K 1/6W 5 TA26
		R511	0RD4701F608	4.7K 1/6W 5 TA26
		R512	0RD4701F608	4.7K 1/6W 5 TA26
		R513	0RD1002F608	10K 1/6W 5 TA26
		R514	0RD0681F608	6.8 1/6W 5 TA26
		R515	0RD1004F608	1.0M 1/6W 5 TA26
		R516	0RD1202F608	12K 1/6W 5 TA26
		R518	0RD5601F608	5.6K 1/6W 5 TA26
		R519	0RD1004F608	1.0M 1/6W 5 TA26
		R521	0RD1502F608	15K 1/6W 5 TA26
		R525	0RD1002F608	10K 1/6W 5 TA26
		R526	0RD1002F608	10K 1/6W 5 TA26
		R527	0RD4701F608	4.7K 1/6W 5 TA26
		R528	0RD1002F608	10K 1/6W 5 TA26
		R529	0RD4701F608	4.7K 1/6W 5 TA26
		R531	0RD5601F608	5.6K 1/6W 5 TA26
		R532	0RD1202F608	12K 1/6W 5 TA26
		R533	0RD1202F608	12K 1/6W 5 TA26
		R534	0RD4703F608	470K 1/6W 5 TA26
		R535	0RD5601F608	5.6K 1/6W 5 TA26
		R536	0RD2200F608	220 1/6W 5 TA26
		R537	0RD4701F608	4.7K 1/6W 5 TA26
		R538	0RD1002F608	10K 1/6W 5 TA26
		R539	0RD5602F608	56K 1/6W 5 TA26
		R540	0RD1001F608	1.0K 1/6W 5 TA26
		R541	0RD1004F608	1.0M 1/6W 5 TA26
		R542	0RD2200F608	220 1/6W 5 TA26
		R543	0RD3302F608	33K 1/6W 5 TA26
		R544	0RD3302F608	33K 1/6W 5 TA26
		R545	0RD1001F608	1.0K 1/6W 5 TA26
		R546	0RD1001F608	1.0K 1/6W 5 TA26
		R547	0RD5601F608	5.6K 1/6W 5 TA26
		R548	0RD1003F608	100K 1/6W 5 TA26
		R549	0RD1002F608	10K 1/6W 5 TA26
		R551	0RD2200F608	220 1/6W 5 TA26
		R552	0RD2200F608	220 1/6W 5 TA26
		R554	0RD1501F608	1.5K 1/6W 5 TA26
		R555	0RD2200F608	220 1/6W 5 TA26
		R556	0RD1202F608	12K 1/6W 5 TA26
		R557	0RD3302F608	33K 1/6W 5 TA26
		R558	0RD3302F608	33K 1/6W 5 TA26
		R559	0RD1002F608	10K 1/6W 5 TA26
		R560	0RD1002F608	10K 1/6W 5 TA26
		R561	0RD5600F608	560 1/6W 5 TA26
		R562	0RD5600F608	560 1/6W 5 TA26
		R563	0RD1002F608	10K 1/6W 5 TA26
		R564	0RD1202F608	12K 1/6W 5 TA26
		R565	0RN1001F408	1.0K 1/6W 1 TA26
		R566	0RD6800F608	680 1/6W 5 TA26

RUN DATE : 95.10.05

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R567	0RD2201F608	2.2K 1/6W 5 TA26
		R568	0RD2703F608	270K 1/6W 5 TA26
		R569	0RD1203F608	120K 1/6W 5 TA26
		R570	0RD1001F608	1.0K 1/6W 5 TA26
		R572	0RD2201F608	2.2K 1/6W 5 TA26
		R574	0RD1802F608	18K 1/6W 5 TA26
		R575	0RD6801F608	6.8K 1/6W 5 TA26
		R576	0RD2702F608	27K 1/6W 5 TA26
		R580	0RD4701F608	4.7K 1/6W 5 TA26
		R581	0RD0101F608	1.0 1/6W 5 TA26
		R582	0RD1001F608	1.0K 1/6W 5 TA26
		R583	0RD1001F608	1.0K 1/6W 5 TA26
		R584	0RD1001F608	1.0K 1/6W 5 TA26
		R585	0RD1001F608	1.0K 1/6W 5 TA26
		R586	0RD1000F608	100 1/6W 5 TA26
		R587	0RD1000F608	100 1/6W 5 TA26
		R588	0RD1001F608	1.0K 1/6W 5 TA26
		R589	0RD1000F608	100 1/6W 5 TA26
		R590	0RD6801F608	6.8K 1/6W 5 TA26
		R591	0RD0101F608	1.0 1/6W 5 TA26
		R592	0RD4701F608	4.7K 1/6W 5 TA26
		R593	0RD4701F608	4.7K 1/6W 5 TA26
		R594	0RD4701F608	4.7K 1/6W 5 TA26
		R595	0RD1001F608	1.0K 1/6W 5 TA26
		R596	0RD1001F608	1.0K 1/6W 5 TA26
		R597	0RD1001F608	1.0K 1/6W 5 TA26
		R598	0RD1801F608	1.8K 1/6W 5 TA26
		R599	0RD4701F608	4.7K 1/6W 5 TA26
		R5A2	0RD1000F608	100 1/6W 5 TA26
		R5A3	0RD4701F608	4.7K 1/6W 5 TA26
		R5A4	0RD4701F608	4.7K 1/6W 5 TA26
		R5A5	0RD5601F608	5.6K 1/6W 5 TA26
		R5A6	0RD5601F608	5.6K 1/6W 5 TA26
		R5A7	0RD1001F608	1.0K 1/6W 5 TA26
		R5A9	0RD4701F608	4.7K 1/6W 5 TA26
		R5B1	0RD1000F608	100 1/6W 5 TA26
		R5B2	0RD0102F608	10 1/6W 5 TA26
		R5B3	0RD1001F608	1.0K 1/6W 5 TA26
		R5B4	0RD1803F608	180K 1/6W 5 TA26
		R5C1	0RD2203F608	220K 1/6W 5 TA26
		R5C2	0RD1203F608	120K 1/6W 5 TA26
		R5C5	0RD2200F608	220 1/6W 5 TA26
		R5C6	0RD2200F608	220 1/6W 5 TA26
		R5X3	0RD2200F608	220 1/6W 5 TA26
		R5X4	0RD2200F608	220 1/6W 5 TA26
		R5X5	0RD2200F608	220 1/6W 5 TA26
		R5X6	0RD4703F608	470K 1/6W 5 TA26
		R5X7	0RD2202F608	22K 1/6W 5 TA26
		R5X8	0RD1002F608	10K 1/6W 5 TA26
		R5X9	0RD3900F608	390 1/6W 5 TA26
		R601	0RD1201F608	1.2K 1/6W 5 TA26
		R602	0RD2201F608	2.2K 1/6W 5 TA26
		R603	0RD8200F608	820 1/6W 5 TA26
		R604	0RD1201F608	1.2K 1/6W 5 TA26
		R605	0RD2201F608	2.2K 1/6W 5 TA26
		R606	0RD3901F608	3.9K 1/6W 5 TA26
		R610	0RD3302F608	33K 1/6W 5 TA26
		R611	0RD5602F608	56K 1/6W 5 TA26
		R612	0RD5602F608	56K 1/6W 5 TA26
		R613	0RD5602F608	56K 1/6W 5 TA26
		R614	0RD5602F608	56K 1/6W 5 TA26
		R616	0RD4701F608	4.7K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R617	0RD8200F608	820 1/6W 5 TA26
		R6G2	0RD1002F608	10K 1/6W 5 TA26
		R701	0RD0822F608	82 1/6W 5 TA26
		R704	0RD1002F608	10K 1/6W 5 TA26
		R705	0RD1002F608	10K 1/6W 5 TA26
		R706	0RD1202F608	12K 1/6W 5 TA26
		R707	0RD1202F608	12K 1/6W 5 TA26
		R708	0RD1202F608	12K 1/6W 5 TA26
		R709	0RD1002F608	10K 1/6W 5 TA26
		R710	0RD5601F608	5.6K 1/6W 5 TA26
		R711	0RD5601F608	5.6K 1/6W 5 TA26
		R712	0RD3301F608	3.3K 1/6W 5 TA26
		R716	0RD2202F608	22K 1/6W 5 TA26
		R717	0RD2203F608	220K 1/6W 5 TA26
		R720	0RD4700F608	470 1/6W 5 TA26
		R721	0RD2202F608	22K 1/6W 5 TA26
		R722	0RD2202F608	22K 1/6W 5 TA26
		R726	0RD5601F608	5.6K 1/6W 5 TA26
		R751	0RD4701F608	4.7K 1/6W 5 TA26
		R752	0RD1201F608	1.2K 1/6W 5 TA26
		R753	0RD5600F608	560 1/6W 5 TA26
		R754	0RD0472F608	47 1/6W 5 TA26
		R755	0RD1200F608	120 1/6W 5 TA26
		R757	0RD2701F608	2.7K 1/6W 5 TA26
		R758	0RD1001F608	1.0K 1/6W 5 TA26
		R759	0RD2200F608	220 1/6W 5 TA26
		R760	0RD2700F608	270 1/6W 5 TA26
		R761	0RD5601F608	5.6K 1/6W 5 TA26
		R763	0RD1001F608	1.0K 1/6W 5 TA26
		R764	0RD8201F608	8.2K 1/6W 5 TA26
		R765	0RD1802F608	18K 1/6W 5 TA26
		R766	0RD5600F608	560 1/6W 5 TA26
		R767	0RD3300F608	330 1/6W 5 TA26
		R768	0RD2202F608	22K 1/6W 5 TA26
		R769	0RD2202F608	22K 1/6W 5 TA26
		R770	0RD1201F608	1.2K 1/6W 5 TA26
		R901	0RD5603F608	560K 1/6W 5 TA26
		R902	0RD6801F608	6.8K 1/6W 5 TA26
		R903	0RD5603F608	560K 1/6W 5 TA26
		R904	0RD6801F608	6.8K 1/6W 5 TA26
		R905	0RD8202F608	82K 1/6W 5 TA26
		R906	0RD1004F608	1.0M 1/6W 5 TA26
		R907	0RD1001F608	1.0K 1/6W 5 TA26
		R909	0RD1002F608	10K 1/6W 5 TA26
		R910	0RD2201F608	2.2K 1/6W 5 TA26
		R911	0RD1001F608	1.0K 1/6W 5 TA26
		R914	0RD0752F608	75 1/6W 5 TA26
		R918	0RD0682F608	68 1/6W 5 TA26
		R922	0RD5601F608	5.6K 1/6W 5 TA26
		R923	0RD5601F608	5.6K 1/6W 5 TA26
		R928	0RD1002F608	10K 1/6W 5 TA26
		R932	0RD8201F608	8.2K 1/6W 5 TA26
		R935	0RD1001F608	1.0K 1/6W 5 TA26
		R936	0RD1201F608	1.2K 1/6W 5 TA26
		R940	0RD1000F608	100 1/6W 5 TA26
		R941	0RD3900F608	390 1/6W 5 TA26
		R942	0RD1803F608	180K 1/6W 5 TA26
		R943	0RD2203F608	220K 1/6W 5 TA26
		R944	0RD6800F608	680 1/6W 5 TA26
		RP01	614-007A	2.7/2W CEMENT SMPS V
		RP02	0RD4702F608	47K 1/6W 5 TA26
		RP03	0RD4702F608	47K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		RP04	614-006B	MATAL OXIDE SMALL 0.47/2W,5%
		RP05	0RD1202F608	12K 1/6W 5 TA26
		RP07	0RD1800F608	180 1/6W 5 TA26
		RP08	0RD0752F608	75 1/6W 5 TA26
		RP09	0RD0222F608	22 1/6W 5 TA26
		RP10	0RD5101F608	5.1K 1/6W 5 TA26
		RP13	0RD1800F608	180 1/6W 5 TA26
		RP14	614-006C	MATAL OXIDE SMALL 56K/2W,5%
		RP15	0RD2201F608	2.2K 1/6W 5 TA26
		RP16	0RN3301F408	3.3K 1/6W 1 TA26
		RP17	0RD3300F608	330 1/6W 5 TA26
		RP18	0RD1001F608	1.0K 1/6W 5 TA26
		RP19	0RN4701F408	4.7K 1/6W 1 TA26
		RP20	0RD0222F608	22 1/6W 5 TA26
		RP21	0RD1003F608	100K 1/6W 5 TA26
REMOCON RECEIVER				
		RC601	668-227R	RECE 20.0 3276A 2800 KOTECO
SENSOR				
		ICP02	657-061B	PHOTO COUPLER PS2561-1-V NEC
	OR	ICP02	657-062B	PC123Y PHOTO-COUPLER(SHARP)
		S501	340-075B	ASSY E/SENSOR(ROBOT)
		S502	340-075B	ASSY E/SENSOR(ROBOT)
		S503	657-040B	REEL RPI-352Q01 D-27 ROHM-J
	OR	S503	657-043A	REEL SG233 D-27 KOTECO
		S504	657-040B	REEL RPI-352Q01 D-27 ROHM-J
	OR	S504	657-043A	REEL SG233 D-27 KOTECO
SCART				
		JK901	573-019A	RGB SOCKET (BRS-03S) ANGLE
SWITCH				
	OR	SW501	556-244A	REC S/W,MPU10105MMBO,MIC
		SW501	556-244B	REC S/W,KPD1101(KIE),STICK
	OR	SW502	556-243D	F/L S/W,MPU10400(MIC),D-27
		SW502	556-243F	F/L S/W,KPD1102(KIE)D27,STICK
		SW601	556-219A	SKHV10910A (GS ALPS)
		SW602	556-219A	SKHV10910A (GS ALPS)
		SW603	556-219A	SKHV10910A (GS ALPS)
		SW604	556-219A	SKHV10910A (GS ALPS)
		SW605	556-219A	SKHV10910A (GS ALPS)
		SW606	556-219A	SKHV10910A (GS ALPS)
		SW607	556-219A	SKHV10910A (GS ALPS)
		SW608	556-219A	SKHV10910A (GS ALPS)
		SW609	556-219A	SKHV10910A (GS ALPS)
		SW701	556-027B	SSSA912NM013(STICK)
TUNER				
		TU701	521-427A	D/K HYPER MTSH7HD22A SHARP
VARIABLE RESISTOR				
		VR401	613-032W	RH0638CJ5R (220K)
		VR501	613-032N	RH0638C14R14A (10K)
		VR502	613-032G	RH0638C13R0VA (1K)
		VR701	613-032Q	RH0638CJ4R0WA (22K)
CRYSTAL				

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		X301	529-020P	4.433619MHZ 15PPM GRAY L=4.0
		X501	529-020I	10.000000MHZ 30PPM NO-TU L=4.0
		X502	529-001K	32.768KHZ 3*8 SEIKO (20PPM)
		X503	529-022V	17.734476MHZ CL-12P 25PPM LEAD
ZENER DIODE				
		DP03	0DZ220009ED	MTZ22B T-77 TP ROHM
		ZD501	0DZ750009DA	MTZ7.5B TP ROHM-K
		ZD502	0DZ130009AA	MTZ13A TP ROHM-K
		ZD503	0DZ150009BA	MTZ15A TP ROHM-K
		ZD504	0DZ560009CB	MTZ5.6C,0.5W(26MM) TP ROHM
		ZD505	0DZ270009CA	MTZ27C TP ROHM-KOREA
		ZD901	0DZ150009BC	MTZ15B ROHM-K
		ZD902	0DZ150009BC	MTZ15B ROHM-K
		ZDP02	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZDP06	0DZ180009CA	MTZ18B TP ROHM-K

MODEL:P43HW ACT1